Office removed to the Agricultural Ware-House and Seed Store, No. 87 North Second street.

THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE, AND RURAL ECONOMY.

Vol. III.—No. 11.] **June 15, 1839.** **[Whole No. 53.**

At a meeting of the Chester County Cabinet of Natural Sciences, held Feb. 16, 1839, it was—*Resolved*, That William P. Townsend be requested to furnish Joseph Cloud, Esq., with a copy of Dr. Joseph Cloud, Jr.'s Essay on Agriculture, with a view to its publication in the Farmers' Cabinet.

W. Townsend, *Rec. Sec.*

West Chester, Feb. 28, 1839.

Dear Sir,—I have the pleasure of forwarding you the above Resolution, with a copy of the Essay referred to, and respectfully request your attention to its publication. Very obediently yours,

Wm. P. Townsend.

Joseph Cloud, Esq.,
Greenwood, Del. co., Pa.

An Essay on Agriculture.

Read by the late Dr. Joseph Cloud, of Como, Chester county, before the Chester County Cabinet of *Natural Sciences*, March 16, 1833.

I think agriculture the most honorable, because the most independent of all professions.—Franklin.

"The benefits that might be derived from the union of chemical skill with the extensive observation of agricultural facts, are perhaps incalculable." The truth of this remark, made by Henry, whose name stands deservedly amongst those of the most enlightened chemists, must be felt and will probably justify my having selected agriculture as a fit subject for the consideration of the Cabinet. My apology, moreover, for discussing a theme, which, though by no means exhausted, has grown somewhat trite, must be founded upon the hope of awakening inquiry into the causes of the effects produced in the vegetable kingdom by certain chemical agents, which are confessedly not well understood.

Agriculture has been thus defined: "The art of cultivating the earth so that it may produce the vegetables we desire in their greatest perfection, and may be divided into two branches, namely, *theory*, and *practice*. The former treating of the various means of preparing and managing the soil and manure, and of the different kinds of vegetables which are adapted to particular soils; the latter relating to the implements of husbandry, the methods of cultivating land, raising crops, and feeding cattle." But it would be happier to say, that "agriculture is the science which explains the art or means of cultivating and improving the earth, so as to render it the most fertile and productive," drawing consequently a correct line of distinction between it and husbandry, "which, properly, only signifies the mode of cultivating land."

Before proceeding further into this inquiry, perhaps a brief review of the history of the subject upon which we are engaged, may be proper and somewhat interesting.

After man was ejected from the scene of primitive happiness, husbandry must have been one of his first employments, for according to the great chronicler of the Holy Book, the Lord God then said to man "In the sweat of thy face shalt thou eat bread" and he sent him forth to till the ground.

This art was practised with much attention by the Egyptians, Phœnicians, Carthagenians, Grecians, and the Romans, particularly during the period when that great people were marked by the sternness of their virtue; it was prized by them as at once pleasant and honorable.

Pastorals were sung by their poets—such men as Numis Pempillius, and Cato the Consor, turned from the cares of state to the composition of works upon the cultivation of the soil—in the same pursuit, Seneca was fain to quit awhile his researches into ethics—and upon every proper occasion, Cincinnatus abandoned the sword and grasped the handle of the plough. But, during the dark ages that followed the fall of the Roman empire, little attention appears to have been paid to any

thing except the fustian of tournaments, and the "pomp and circumstance" of the wars, excited mainly by the blind zeal or wily artifice of the monastic orders. The only glimmerings of science that were then elicited, were the result of the labors of visionary alchymists; and during a long period of cimmerian darkness, agriculture was attended to by the base and ignorant vassals of the great alone. But as learning revived and true science had again her votaries, it soon became respectable as an art, and may now be justly dignified as a science; and that too, of primary importance. The author of Lacon has well said that "Agriculture is the most certain source of health and strength and independence. Commerce flourishes by circumstances, precarious, contingent, transitory—almost as liable to change as the winds and waves that waft it to our shores. She may well be termed the younger sister, for, in all emergencies, she looks to agriculture both for defence and supply."

In Europe, men of the highest attainments have turned the lights of science upon this subject, and the consequence is, that many things which were considered as forever hidden among the arcana of nature, are now easily distinguished. The theories that have been built upon the discoveries thus made, are applied to practice in many of the best farming districts of Great Britain and the European continent, with very beneficial results.

Felix qui potuit rerum cognascure causas.

We have cause of gratulation that, in our own country too, many distinguished names are enrolled among the cultivators of the soil, whose high theoretical knowledge and great practical zeal and skill are deserving of much commendation. There is still, however, a great deal to be done, and the foundation of every improvement not resulting from mere accident, must rest upon a knowledge of the causes of the effects that we see produced in the vegetable kingdom, and a proper acquaintance with the physiology of plants. A wide range is thus opened before us, to pursue which, would lead to the discussion of many botanical points, as well as to investigations relating to geology, and to the nature and use of marl, lime, sand, ashes, gypsum, dung, and other matters; the judicious application of which is generally admitted to fertilize the soil. Remembering the proposition of Kerwan, that, *manures are applied to supply the defective ingredients of a soil, or improve its texture, or correct its vices*, we should be induced moreover to inquire, particularly, what are the proper agents to apply to such soils as rest upon the primitive rocks of the eastern section of our country, which are generally of but little fertility—to such also, as are of the light alluvial character, which class embraces Long Island, and the whole seaboard as far as the Gulf of Mexico—and again to such as are embedded upon the strata of the transition kinds, which soils are mostly susceptible of a high degree of cultivation, and fill up the space between the varieties just named and the Alleghany mountains, at the western foot of which, commences the vast fertile region of the secondary formation, known as the great valley or basin of the Mississippi.

I have neither the ability, nor would the time allotted to the session of the Cabinet, permit the examination of these varied, intricate, and highly interesting subjects. I shall confine myself, therefore, to the consideration of lime, dung, and plaster of paris, which are chiefly depended upon as manures by the farmers of the district in which we reside.

Lime, as most generally found in nature, is a carbonate, which, upon being exposed to a strong heat for some time, will lose its carbonic acid, and its water of crystallization. In this state it has a caustic, alkaline taste, and when exposed to the air, soon becomes what is usually called *fallen lime*, and is denominated by Dalton, an *hydrat of lime*. It is now very soluble, and may be readily taken up by the absorbents of vegetables. The food of plants is universally admitted by the scientific world to be chiefly water, and carbonic and calcareous matters. Were it not so, from what source would all herbiverous as well as all other animals derive the lime that enters into their bony structure? By the experiments of Gay, Lussac and Thenard, it has been proven also, that the woody fibre, or lignem, consists of carbon, and of oxygen and hydrogen in such proportions as are necessary to the formation of water.

It may not be irrelevant to state here, that Ingenhong and other experimentists have shown, that plants give out pure oxygen gas while acted upon by the sun's rays; that they have the power of decomposing water, and appropriating its ingredients to supply their own wants; and that, with other matters they absorb nitrogen and carbonic acid gas.

The hydrogen taken up assists in the formation of oil and resin: a portion of the oxygen as shown by Cruikshanks, is necessary to the conversion of mucilage into sugar, and the sap of all useful vegetables is of a saccharine character. The remaining portion of oxygen is thrown off in the manner alluded to above; and the carbon, as has been before observed, enters largely into the composition of the woody fibre.

From these facts we may understand how wise a provision has been made for the preservation of the purity of the atmosphere, contaminated as it is by every respiration of animals, and by a thousand other causes.—

Since we have arrived at a knowledge of the circulation of the blood, we have been able to discover that oxygen is necessary to animal life; that upon being inhaled it unites with the dark venous blood, and changes it into the bright arterial, in which process carbon is eleminated, and all the nitrogen is respired except a very small portion, which, as stated by Davy, is absorbed by the blood, and forms one of the constituent parts of animal matter.

That dung should be highly useful as a manure, may be readily understood, when it is remembered that the urine, feces, and other feculent substances which make up the mass of the deposit of our barn-yards and compost heaps, are quickly liable to fermentation, and to the liberation of such matters as are acknowledged to be the nutriment of plants, and that their great solubility renders them of ready and very beneficial application. But the *modus operandi* of plaster of paris is not so well understood. The discovery of the usefulness of this article has been attributed by some to a Mr. Mayer, a German Clergyman. Judge Peters, however, who was decidedly the most active in introducing its use into this country, had his attention called to it by a German of the name of Burge, then residing upon the commons near Philadelphia, who stated that the discovery of its fertilizing properties was accidentally made by a laborer in Germany, employed in making stucco mortar, who saw that the path made by him in going from his work to his cottage, threw up a luxuriant crop of clover, in the succeeding season, when all other parts of the field exhibited sterility. This he attributed to the dust falling from his clothes. Some have thought the advantages to be derived from plaster must be attributed to its calcareous base; but surely all the lime that enters into this sulphate, spread upon the ground in the sparse manner in which gypsum is generally strewn, could have but very inconsiderable effect. By many it is supposed to act merely as a stimulus, but by what process of reasoning they come to such a conclusion, I know not. Others, with more plausibility, have supposed that its chief operation depends upon its attracting moisture from the atmosphere, and yielding it to the plants around which it is thrown. This was the supposition of Judge Peters, but it was objected to at the time by Dr. Priestly, and other chemists, on the ground, that gypsum was insoluble when exposed in the usual way. To explain, then, the operation of that great agent is still a desideratum in science: the rays of light that have been thrown upon it must be admitted to be faint indeed; and as it is at once important and abstruse, I would approach the inquiry with more diffidence if the views which I am about to offer were not concurred in, and mostly originated by my father; who, as the members of the Cabinet are aware, has devoted many years to chemical research. If the positions which may be assumed should not prove to be entirely correct, they may at least elicit some light, and aid the labors of others. The *first* proposition then is, does plaster promote the growth and perfection of vegetables?

Secondly. Are its effects in the promotion of vegetation as sensible and important in seasons of a sufficiency of rain as in dry seasons?

Thirdly. Are vegetables that have been plastered, more apt to be found wet with dew in the morning, than the same variety growing upon ground where no sulphate of lime has been used?

With respect to the first query, the mass of evidence is so great and so well known, that plaster does promote the growth and perfection of vegetables, that to discuss it would be only a waste of time.

That its effects are scarcely sensible, and consequently of but little importance in rainy seasons, is proven by the concurrent testimony of many experienced farmers. Sufficient evidence can also be given of the fact, that grasses which have been plastered, are more apt to be wet with dew than the same varieties growing upon adjacent grounds which have not been similarly treated. Assuming then the position, that plaster does promote the growth and perfection of vegetables under certain circumstances; that it is useless in seasons of a sufficiency of rain, and that dew is more apt to be found upon grasses that have been plastered than others, we will proceed to the examination of the causes that may probably produce these effects. Water, as before observed, seems to be necessary to carry on the process of vegetation; it aids in the preparation of the proper food for plants, and in the promotion of the decomposition of animal and vegetable matter acting as a solvent by which the substances necessary may be taken up by the vegetable absorbents: it is no doubt decomposed by vegetables, and the oxygen and hydrogen of which it is formed, are appropriated to the production of different parts of the plants. As the chief importance of the use of plaster may probably be that of furnishing water, I shall now endeavor to show how that effect is produced. In the first place, it does not appear probable that sulphate of lime can, of itself, attract much moisture from the atmosphere: but, secondly, it is well known that sulphuric acid attracts it powerfully; hence, if we can produce a decomposition of this substance, and liberate the sulphuric acid from its combination with the lime, we shall then have a medium for the at-

traction of moisture, and a ready explanation of the very copious production of the morning dew. It is a well established fact among chemists, that the action of sulphuric acid on vegetable and animal matter, will cement them into sugar, as hinted before; the sap of all vegetables is probably saccharine, and it is in this state only, that disorganized matter is rendered most conducive to the promotion of vegetation. It is also well known that decomposing vegetable and animal matter, operated on by the atmosphere, will produce nitric acid, which with facility changes sugar into oxalic acid, and we have thus the means of decomposing the sulphate of lime, inasmuch as an oxalate of lime will be formed, and the sulphuric acid set free to perform the beneficial effects that have been mentioned.

The Sun Flower.

It is said by experienced agriculturists, that this plant, properly cultivated, is probably the most profitable of any ever cultivated.—The oil extracted from its seeds, which are more oleaginous than those of any other plant known to us, combines the qualities, for eating, of the olive or sweet oil; for burning, of the best sperm oil, without the smoke of the latter; and for painting of flaxseed oil. The young flower cups of this plant are very esculent and agreeable to the taste, when prepared and eaten as artichokes. The stalks are an excellent substitute for hemp in manufacturing pack thread. From its flowers, the most luscious and highly flavored honey is extracted. It is estimated that the plant will yield between 80 and 100 bushels of seed to the acre, which will furnish from five to seven quarts of oil to the bushel. We think it would be an object for some of our agriculturists to make the experiment. The flower will flourish on ground unfit for any thing else.

To prevent Horses being teased by Flies.

Take two or three small handfuls of walnut leaves, upon which, pour two or three quarts of cold water; let it infuse one night, and pour the whole next morning into a kettle, and let it boil for a quarter of an hour;—when cold it will be fit for use. No more is required than to moisten a sponge, and before the horse goes out of the stable, let those parts which are most irritable be smeared over with the liquor, viz. between and upon the ears, the neck, the flank, &c. Not only the lady or gentleman who rides out for pleasure, will derive benefit from the walnut leaves thus prepared, but the coachman, the wagoner, and all others who use horses during the hot months.—*Farmers' Receipt Book.*

The Divining Rod.

To the Editor of the Farmers' Cabinet.

Sir,—In almost every age there have been those who have had faith in the virtues of the Divining Rod for the discovery of springs of water in the earth, but the number of these have been few indeed, at any period.

During a residence of five years in the Island of Jersey, (England,) I had continual opportunities of testing the truth of the pretention, for there lived within half a mile of my house, a person who, every one admitted, possessed the power to an unlimited degree; but knowing that I could at any time indulge in the experiment, I neglected to do so until my removal from thence, when I regretted that I had allowed the opportunity to pass without convincing myself of the truth or falsehood of a *phenomenon* which has interested the world for so many ages.* I had, however, very unexpectedly, an opportunity of re-visiting the Island, and then I determined to satisfy myself on the subject. For this purpose, I visited, in company with a friend,† the person above alluded to, and the result is as follows: His name is Ingouville, a resident on his own estate, within a short distance of the Town of St. Hellier's, on the Trinity Road, and a highly respectable man. He received us in the most friendly manner, professed himself ready to accompany us, and to make us acquainted with every thing relating to, what he himself accounted, a most wonderful circumstance. He began by furnishing himself with an Elm twig, the size of a small quill, cut from the tree so as to form a fork, Y, and taking the double twigs, one in each hand, with the single point forward, he walked into the garden where was a spring of water, not, however, discernible on the surface. On approaching the spot, he desired me to grasp the twigs, which extended beyond his hands, and say if I found them tremble as we walked forwards; in a short time I felt them very sensibly affected, and saw the single point of the rod tending downwards to the earth; he then asked if I felt them twisting in my hands, from an inclination to follow the downward tendency of the point! which I did; he bade me grasp them tightly, with a view to prevent the single point from turning; but this I could not do, although he held the rod very loosely, to give me every facility for so doing. After a few more steps, the point of the rod turned down, in a direct position, towards the earth, in spite of all my endeavors to prevent it. "There," said he, "is the spring," and as I liberated

* I have heard that, in Cæsar's Commentaries, mention is made of the Divining Rod, in use for the purpose of discovering wells of water.

† The Rev. Francis Perrot.

the ends of the rod from my grasp, they immediately took an upright position, correspondent to the downward position of the point of the rod. He then approached the same spot from the opposite sides with precisely the same results. At my request, he repeated the experiment several times, until I was abundantly satisfied of the truth of all that I had heard relating to this curious and wonderful performance. He afterwards pointed out other spots, always with the most perfect success. When I expressed my astonishment at what I had witnessed, he assured me he was at a loss to conceive of the power which resided in him, and was very desirous of knowing if it could be accounted for on philosophical principles. He told us, at the time of the first French Revolution, many of the Roman Catholic priests fled for refuge to the Island of Jersey, and amongst them was one who was said to possess the power of discovering springs of water, by means of the Divining Rod; he was then building the house where he now resides, and having no water, he thought it a good opportunity to put the experiment to the test; he therefore invited the priest to his house, and requested him to try his skill: this he did, and discovered a spring of water a short distance from the building. "I then," said he, "desired him to permit me to try if I also possessed the power, and on taking the rod into my hands found that I did to a greater degree than himself! The discovery quite overcame me, and I should have fallen, had I not supported myself against the wall. I afterwards, by means of the rod, found a spring immediately under the foundation of the new building, and I did not hesitate to dig to it; but, to do this, it was first necessary to turn an arch in the wall, to take off the weight from the foundation, which I did, and struck the spring within 9 inches of the depth which I had calculated." And there I saw the arch (a standing memorial of the truth of what he had related) stretching across a well, which yields a never-failing spring of the purest water.—He added, "Since this, I have been sent for, far and near, to find springs for my friends, and I have never been deceived in my operations, although more than 2,000 wells have been dug by my directions." He is enabled to calculate the depth of the spring, by measuring the distance between the spot at which the rod first becomes agitated, and that at which it takes a decided turn downwards, and has attained a surprising exactness in these his calculations. He was requested by Sir T. Le Breton, the Lieut. Baillie of the Island, to search for a spring at his house at *Bagatelle*, as the well, from which water was obtained, was only a land drain: singular enough, he could find only one spring, and that was at the *bottom of the well!* "Go deeper," said he, stating the depth according to his rule, "and you will find plenty of water." I, sometime after, received a letter from my friends, Messrs. Jean & Marrett, brewers, stating that Mr. Ingouville had discovered a spring on their premises, *four feet only from their old well*, (a land drain) which furnished plenty of the finest water for all their purposes. Mr. James Hemery, intending to erect a house in a beautiful field near St. Hellier's, Mr. Ingouville searched for a spring, and pointed out the spot where it might be found, stating the depth at which it would be struck; and, without hesitation, Mr. Hemery commenced building in the faith of his prediction, so that the well, when dug, might be enclosed by the court yard wall, and at exactly this spot he found it!

The Island of Jersey is of primitive, or granite formation, of an almost impenetrable character, yet no one, in need of a well, hesitates to dig at the spot pointed out, and frequently, the price for digging has been fixed before hand, by means of his rule for judging of the necessary depth.

After Mr. Ingouville had satisfied me of the truth of what I had heard on the subject of water finding, he informed me that he had the power of finding money also; he requested me to bury a silver coin in the garden, walking from me, to show that he did not wish to see the spot where it had been deposited; *he found it in an instant*, and then related a singular circumstance which occurred during a late search for a spring of water—many persons were collected to witness the result, but as he passed amongst them he perceived the rod to become agitated in an unaccountable manner, while passing a particular spot, which was crowded by these persons who were looking on; he retraced his steps, but still the rod was affected in the same way; at length, he inquired if a lady, who stood close to the spot, had any considerable quantity of money with her, when she produced a very large quantity of silver in her reticule! after this was removed, the rod performed as usual.

Now, I have never heard any attempt to account for the wonderful power which is certainly possessed by this person; possibly, it may be, that there is an affinity between persons of moist constitutions, and the moisture of the earth, and the rod may operate as a sort of conductor: would your friends and contributors do what they can to throw light on the interesting subject?

To those who have not had the means of ascertaining, by actual observation, the truth of what is above stated, it might be interesting to remark, that Mr. Ingouville is a most respectable man; advanced in years; the

cultivator of his own estate; independent in circumstances; has never once practised for reward, and will accept of none; and what is better than all, makes no secret about it; declares he is quite ignorant of the means by which he is enabled to operate, but is ready, at all times, to communicate all that he knows about it for the benefit, or to satisfy the curiosity of any who will call on him for the purpose.

I have been thus particular as to time, place, and persons, in the hope that there might be those amongst your readers who may, from their knowledge of the circumstances, be able to corroborate what I have said relating thereto. The names of those whom I have mentioned, must be familiar to all who have visited the Island of Jersey; and I trust I might, through the medium of the pages of the Cabinet, become acquainted with some, with whom I may renew the pleasurable recollections of the period which I passed in that very beautiful and delightful spot.

JAMES PEDDER.

21st April, 1839.

The Rev. JOHN WALKER, of Gloucester county, N. J., is respectfully requested to communicate what information he may possess in reference to this interesting subject, to the public, through the columns of the Farmers' Cabinet.

Farmers' Work for July, on the Farm.

CORN.

Let your corn be kept constantly free from weeds, and the earth so stirred about the plants as to be always in a state not only to admit their free and unrestricted growth, but to attract and absorb whatever dews may fall, or moisture existing in the atmosphere.—However good soils may be, however congenial to the growth of this particular grain, exact and cleanly cultivation is indispensably necessary to its successful culture—you may rest assured that it is just as essential as manure itself. In the working of the corn we are not the advocate of that plan which would raise a mound or hill around the plants—on the contrary, we believe that they will grow faster and yield more, where no hill whatever is raised. Nor are we the advocate of frequent ploughings; we believe that more than two ploughings should never be given to the corn crop—that one at the proper time is enough—and that whether one or two, they should be at the incipient period of the growth of the plant. All ploughings, after the lateral roots have pushed out to any considerable distance, serve only to cut and lacerate those roots, and deprive the stalk and its fruit of its wonted supplies of nourishment, and not unfrequently that much dreaded *firing*, as the planters term it, which so despoils the crop of its rightful fruitfulness. After the corn has reached two feet in height, the cultivator, harrow and hoe, should alone be used. By the judicious use of these implements, all the good to be effected by proper culture may be secured, without hazarding the fruitfulness of the crop by cutting off the sources of feeding, and thereby diminishing the chances of abundant production.

POTATOES.

Though it is *late* to put in your fall crop, by proper preparation of the soil, manuring and other treatment, a saving crop may yet be realized; those who have their potatoes already up, must keep them clean, and the earth in that condition which offers no impediment to the healthful vegetation—taking care at all times to keep a small *furrow*, flat at the top, around the vines, to act in the twofold capacity of a recipient of rain and moisture, and to afford room wherein the bulbs may grow without difficulty.

THE HARVEST.

Already, farther south, this interesting labor has been begun, and we trust and believe under auspices the most promising. With us, in ten days, or two or three weeks, wheat, rye, and oats will be ready for a similar operation, and it may not be amiss to remind the farmer, that should *rust* or *blight* fall upon the *stems* of either wheat or rye—and from the present state of the weather there is danger to be apprehended—both grains should be cut, though the kernels may still be in milk; for no possible nourishment can be expected to be drawn from the stalks of grain after their juices have been indurated by such agency.

This too is the month for the cutting and curing of hay, and upon this subject we propose to have a word. It is this—the sooner the grass is put into cocks the better, as it is less exposed to the injurious effects of the vicissitudes of weather in that form than when in swarth, and cures into hay to much greater advantage, retaining a much larger amount of nutritive matter than when dried in the old way. In storing it, the judicious farmer will not fail to sprinkle a small portion of salt over each layer of hay, because in so doing, he will greatly add to its quality, and render it the more grateful to his stock.

TURNEPS.

Those who desire large crops of turneps, with a view of feeding stock, should put them in as early after the 15th of this month as possible. The sowing of those intended for the table may be delayed a week or two—

indeed any time during the month will answer; but we admonish all against delaying sowing their seed until, as the old custom would have it, the 20th of August. Every prudent man should allow himself time to meet all contingencies that may occur.

BUCKWHEAT.

This grain may be put in any time between the first and the tenth of the month, with a certainty of its maturing; but the sooner the labor is performed the better—and surely no one who likes to see his family enjoying a good winter's breakfast—surely no husband or father, whose happiness is identified with that of his wife and children, will omit to secure a full supply of the material of those delectable cakes, which give so exquisite a zest to the breakfast table. But we will have a word as to the straw; for while it is our first object to secure comfort to the domestic circle of the homestead, it is our desire not to forget the inmates of the barn-yard. Therefore, let us admonish you to get your grain out early—as early as possible after your buckwheat is harvested, and carefully put away your *straw* to be fed to your milch cows as hay. As we have said before, we will here repeat it—it is just as valuable as so much timothy or clover for them. Custom, hitherto, with most farmers, has consigned it to the dung-heap or cow-yard, as a thing only fit to be trampled under feet; but enlightened economy would allot it a much higher destiny. When cured with care, and kept from the weather, it makes as good and wholesome provender, as ever went into the manger of cattle.

MILLET.

Up to the 15th of this month, this grain may be sown. In six weeks from the day of its being put into the earth, if sown on good, warm, light soil, it will be fit for cutting for hay. As a *cleanser* of grounds intended for *timothy*, there is nothing superior to it. As soon as the millet is off, the stubble should be well harrowed, the timothy seed sown, a light harrow passed over it, and then the ground should be rolled.

CABBAGES.

Those who would desire to keep their cows well to their milk through the winter, should put in at least one or two acres of this productive vegetable—in good ground they will yield 40 tons to the acre, and we need not say, that that quantity of green food in midwinter would be most acceptable to your milch cows, and tend greatly to increase the quantity of milk and butter yielded by them.

This rule in gardening never forget—
To sow dry and set wet.

THE DAIRY.

No. IV.

On the Management of the Dairy, particularly with respect to the making and curing of Butter.

BY DR. JAMES ANDERSON.

On some occasions a part, or the whole of the butter may, perhaps, be disposed of fresh; but in general it must be salted before it can be carried to market. And as this part of the process requires as great nicety as any other, a few remarks on the subject shall be added.

SALTING BUTTER.

Wooden vessels are, upon the whole, most proper to be employed for containing salted butter. These should be made of cooper work, very firm, and tightly joined with strong *wooden* hoops. It will be advisable to make them very strong where circumstances permit them to be returned to the dairy; for as it is a matter of considerable difficulty to season new vessels so well as that they shall not affect the taste of the butter, it is always advisable to employ the old vessels rather than make new ones, as long as they continue firm and sound. Oak is the best wood for the bottom, and staves and bread Dutch split hoops are to be preferred to all others, where they can be had. Iron hoops should be rejected, as the rust from them will in time sink through the wood, though it be very thick, and injure the color of the butter: one iron hoop, however, should be put at the top, and another below beyond the bottom, the projection below the bottom being made deep for this purpose. No form is more convenient than that of a barrel, unless, perhaps, it be that of a truncated cone, with the apex uppermost; as in this case the butter never can rise from the bottom and float upon the brine, which it will sometimes do in the under part of a barrel when brine is necessary. But this inconvenience may be easily obviated, by driving a wooden peg, with any kind of a head, into the bottom before it be filled, as the butter, closely embracing that head all round, will be kept perfectly firm in its place.

An old vessel may be prepared for again receiving butter, by the ordinary process of scalding, rinsing, and drying; but to *season* a new vessel requires greater care. This is to be done by filling it frequently with scalding water, and allowing it to remain till it slowly cools. If hay, or other sweet vegetables are put into it along with the water, it is sometimes thought to facilitate the process. But in all cases frequent effusions of hot water are very necessary, and a considerable time is required before they can be rendered fit for use. The careful dairy man ought to be particularly guarded with respect to this

particular, or he may soon lose his character at market.

After the butter has been beaten up and cleared from the milk, as before directed, it is ready for being salted. Let the vessel into which it is to be put, after being rendered as clean and sweet as possible, be rubbed all over in the inside with common salt, and let a little melted butter be run into the cavity between the bottom and the sides at their joining all round, so as to fill it and make it every where flush with the bottom and sides. It is then fit to receive the butter.

Common salt is almost the only substance that has been hitherto employed for the purpose of preserving butter; but I have found, by experience, that the following composition is, in many respects, preferable to it, as it not only preserves the butter more effectually from any taint of rancidity, but makes it also look better, and taste sweeter, richer, and more marrowy, than if the same butter had been cured with common salt alone. I have frequently made comparative trials with the same butter, and always found the difference much greater than could well be conceived. The composition is as follows:

Take of sugar one part, of nitre one part, and of the best Spanish great salt, (or of Doctor Swediaur's best salt, which is still better than the former, being cleaner, [or best rock salt,]) two parts. Beat the whole into a fine powder, mix them well together, and put them by for use.

Of this composition one ounce should be put to every sixteen ounces of butter;* mix this salt thoroughly with the butter as soon as it has been freed from the milk, and put it, without loss of time, down into the vessel prepared to receive it, pressing it so close as to leave no air-holes, or any kind of cavities within it. Smooth the surface, and if you expect that it will be above a day or two before you can add more, cover it close up with a piece of clean linen, and above that a piece of wetted parchment, or, for want of that, fine linen that has been dipped in melted butter, that is exactly fitted to the edges of the vessel all round, so as to exclude the air as much as possible, without the assistance of any watery brine; when more butter is to be added, these coverings are to be taken off, and the butter applied close above the former, pressing it down and smoothing it as before, and so on till the vessel be full. When it is quite full, let the two covers be spread over it with the greatest care, and let a little melted butter be poured all round the edges, so as to fill up every cranny, and effectually exclude the air. A little salt may be then strewed over the whole, and the cover be firmly fixed down to remain close shut till it be opened for use. If all this be carefully done, the butter may be kept perfectly sound in this climate for many years. How many years I cannot tell; but I have seen it two years old, and in every respect as sweet and sound as when it was only a month old.

It deserves to be remarked, that butter cured in this manner does not taste well till it has stood at least a fortnight after being salted; but after that period is elapsed, it eats with a rich marrowy taste that no other butter ever acquires; and it tastes so little of salt, that a person who had been accustomed to eat butter cured with common salt only, would not imagine it had got one-fourth part of the salt that would be necessary to preserve it.†

* It is of great consequence that every process, which requires much thought or nicety, should be banished, if possible, from all branches of manufacture. On this principle, as some difficulty might arise in proportioning the quantity of salt to unequal weights of butter, I should advise that every person who means to adopt this practice at large should begin with providing himself with a steelyard so constructed as that sixteen ounces in the one scale is exactly balanced by one in the other. And that he may be at no loss to provide himself with this simple apparatus, the following directions may be attended to.

Let him provide two scales of equal weight; one of them should be of wood, and flat for the butter, no matter what form or materials the other is of; let him then take a slip of deal two inches broad, half an inch thick, and two feet long. Near to each end, and at about half an inch from the same side at each end, make a hole through the board, to which the scales may be fastened by means of a loop of wire; observe, that these two holes should be placed exactly at the same distance from the edge. Let him then load the two scales, one of them with one ounce, and the other with sixteen, and having drawn a line parallel to what will now appear to be the upper side of the beam, at half an inch from the top all along on each side, let him be provided with two sharp-pointed instruments, such as a shoemaker's awl: Let him then try to find a point in the new-made line on each side of the beam, where, when the beam is allowed to vibrate on his awls placed directly opposite to each other, the two weights balance each other. This point he will soon discover to be much nearer one of the ends of the beam than the other. Through this point let him pierce a hole by means of a round hot iron. Through this hole put a piece of thick iron wire, which if supported at each end will serve as a pivot. The apparatus is now complete.

And whenever it is afterwards wanted, nothing more is necessary than to place the butter, whatever be its weight, into the butter-scale, and then to put as much of the composition into the opposite scale as brings the beam to a balance; and this will in all cases be the due proportion of salt for the butter, whatever the weight of that butter may be.

† But after this butter has been cured in the most perfect manner, it may chance to be much debased in its quality by being improperly treated during the time it is using. Therefore observe, that, when it is broken up for use, a small portion should be pared from the surface all over, especially near the edges, in case the air should not have been so entirely excluded as it ought to have been. If it be to be quickly consumed, it may be then spooned up as it is wanted, without any other precaution than that of keeping it carefully covered up so as to exclude dust, &c, from having access to it. But if it be to be used very slowly, and if the person to be employed in spooning it up be not very careful, or so indolent as not to be at the trouble of closing it up at each time with the covers, it may happen that the part which is thus long exposed to the air may contract a small degree of rancidity. To guard against this evil, in these circumstances, when the

Butter thus cured would bear to be carried to the East or the West Indies, and would keep sweet during the longest voyages, if it were so packed as not to allow the butter to be so far melted as to occasion the salts to separate from it. But as none of these salts admit of any chemical union with the butter, it must happen that if ever the butter be so far melted as to become of a fluid consistence, the salts drop to the bottom, and the butter, deprived of their antiseptic powers, quickly becomes rancid. It would be a great improvement in the culinary art, if any antiseptic substance could be found that possessed any agreeable taste and flavor, which was capable of being dissolved in oily substances. This might afford a proper subject for a premium by Agricultural Societies. In the mean time the following hints on this subject may be of some use.

Butter, in its natural state, contains a considerable proportion of mucous matter, which is more highly putrescible than the pure oily parts of the butter. Where it is, therefore, intended that butter should be exposed to the heat of warm climates, it ought to be freed from that mucilage before it be cured and packed up for keeping. To prepare butter for a distant voyage, therefore, in warm climates, let it be put into a vessel of a proper shape, which should be immersed into another containing water. Let the water be gradually heated till the butter be thoroughly melted; let it continue in that state for some time, and allow it to settle; the mucous part will fall entirely to the bottom, and the pure oil will swim at top, perfectly transparent while hot, but when it cools it becomes opaque, assumes a color somewhat paler than the original butter before it was melted, and a firmer consistence, more nearly resembling that of tallow, and consequently it will better resist the heat of a warm climate than butter itself. When this refined butter is become a little stiff, and while it still is somewhat soft, the pure part should be separated from the dregs, and then salted, and packed up in the same way as is directed for butter. This would retain the salt longer and keep much longer sweet, in hot climates, than if it had been cured in its original state.

This refined butter may be preserved in yet another way, which I have sometimes seen practised here by way of medical *bonne bouche* (comfit.) After the butter is purified, add to it a certain proportion of firm honey, mix it well, it will incorporate thoroughly with the butter, and when cold it eats very pleasantly spread on bread like butter; and may be given to old people, if they relish it, instead of marrow, and to others as being useful for coughs and colds. These were the uses to which I have seen this substance applied, and on these occasions the proportion of honey employed was considerable. I have seen it kept for years, without manifesting the smallest tendency to rancidity, so that there can be no doubt but that butter might thus be preserved in long voyages without spoiling.—The only point that remains to be ascertained is, what is the smallest proportion of honey that would be sufficient to preserve the butter. Sugar is known to be a much more powerful antiseptic than common salt, and probably honey may be in that respect nearly on a par with sugar. If so, it would be reasonable to suppose that one ounce of honey might be sufficient to preserve sixteen ounces of butter. In that case the taste of the honey would not be extremely perceptible, so that the butter, even to those who might not relish the sweet composition above mentioned, might prove very agreeable, especially if a little salt were mixed with it when about to be used. A few experiments would be sufficient to ascertain this particular.

From the circumstance of the honey incorporating with the butter, and not separating from it while in a fluid state, it would promise nearly to accomplish the purpose wanted above. Whether, when it became very fluid, and was long continued in that state, any separation would take place; or whether the honey in these circumstances would be in danger of fermenting, are questions that experience alone can determine. Sugar, though it would preserve the butter equally well while it continued in a solid state, would doubtless separate from it when it became fluid. Whether molasses would do so, or what effects they would in this case produce, I cannot tell; but a few experiments would ascertain these points. Should any method of preserving butter in warm climates be discovered, it would be productive of so many benefits to individuals, and to the nation at large, by giving an opening for a new branch of commerce and manufacture, that it is much to be wished the few experiments wanted to ascertain these points were made, with such care, under the direction of persons who would faithfully report the result to the public, as should be sufficient to remove all doubts upon this head.

P. S. The greatest part of the observations contained in the foregoing pages, were derived from a lady, who is now beyond the reach of being affected by any thing in this

vessel is opened let a strong brine of common salt be prepared that will swim an egg, and poured, when cold, upon the surface of the butter; this will cover that surface effectually, even though the operator should be a little careless, and will thus guard against the inconvenience complained of: for though the quality of the butter will thus be injured in some degree, in consequence of the water acting upon it, yet that is an evil of far less material moment than the slightest degree of rancidity would occasion.

sublunary world. Her beneficence of disposition induced her never to overlook any fact or circumstance that fell within the sphere of her observation, which promised to be in any respect beneficial to her fellow-creatures. To her gentle influence the public are indebted, if they be indeed indebted at all, for whatever useful hints may at any time have dropped from my pen. A being, she thought, who must depend so much as man does, on the assistance of others, owes, as a debt to his fellow-creatures, the communication of the little useful knowledge that chance may have thrown in his way. Such has been my constant aim: such were the views of the wife of my bosom—the friend of my heart, who supported and assisted me in all my pursuits. I now feel a melancholy satisfaction in contemplating those objects she once delighted to elucidate.

From Rev. H. Colman's Second Report of the Agriculture of Massachusetts.

Shakers' Establishments.

1. The Family at Tyringham consists ordinarily of one hundred members. The farm is understood to contain more than one thousand acres, principally situated on the side of a high hill, and running down into the valley, where it is crossed by the small stream called Hop brook, which empties into the Housatonic river at South Lee. The view from this eminence, as the prospect extends towards the northwest, embracing the village of Lenox, "set upon a hill," with the whole intervening valley of a diversified aspect and luxuriant soil, the little manufacturing bee-hive of South Lee, and the many rich summits every where scattered in the background of the picture, their tops and sides fringed with the chestnut and the rock maple, and the noble pile of Saddle-Mountain lying in the distant perspective like a contemplative giant in his repose, is among the most beautiful of those enchanting views which are constantly opening upon the traveler, in this picturesque region.

The principal object of their farming, at Tyringham, is the raising of stock; neat cattle especially. The dairy is well managed; and they have a garden of four or five acres, devoted to the raising of garden seeds and medicinal herbs, under skilful and successful cultivation. Their annual sales have sometimes amounted to $3,100; and they allow to their agents twenty-five per cent. commission on sales, and take back what is unsold. They produce some wheat, corn, and oats; and they are now effecting with great labor and admirable skill the redemption of extensive alluvial meadows on Hop brook, by draining, rooting out the stumps, and cultivating the soil, which will bring these lands under a course of most productive improvement.

Of the religion of this peculiar people, it is not for me in this place to speak. A religion which holds the severest restraint over appetites and passions ever liable by their excesses to lead men astray, which encourages industry, frugality, mutual love and kindness, and that which is certainly not lowest in the scale of virtues, the most exemplary neatness and order in every thing, is so far entitled to respect and commendation. Under whatever aspect we view it, we have at least occasion to congratulate ourselves, that we live under a government tolerant to every honest difference of worship and opinion; and to remember, that the same principle, which secures freedom to ourselves, should guarantee to others a like boon.

2. The establishment of the brethren at Pittsfield and Hancock, consists of about seven hundred acres, lying together; and is possessed by three large families, containing upwards of three hundred individuals. They are united for all the general purposes of their society; but in their financial concerns are as families separate from each other. The land is not of the best description, being low, cold and wet; and their attention is mainly directed to the cultivation of grass and garden seeds, and the keeping of cows and sheep.—Their first purpose is for their own supply.—They raise the best they can, and they eat the best they raise; and though from their temperate and careful habits their thrift is remarkable, yet the accumulation of property is evidently not a principal object with them. They have various mechanical contrivances by which their labor is abridged or lightened. They have made the best use of the water power which their place furnishes, and husband it with care and economy. They have an extensive saw-mill carried by water, and all their fuel is cut in the same way. A simple arragement which it may appear trifling to mention, impressed me by its shrewdness and good judgment. Ordinarily, fire wood is piled horizontally, and when exposed to the weather, becomes water soaked and mouldy. Their billets of wood being sawed were stacked up in convenient piles, the sticks being placed upright on the end, so that any water which fell upon the pile was immediately drained off. After being sawed they were neatly put up under cover.

I have already referred to their magnificent barn, built of stone of a circular form, three stories in height, ninety-six feet in diameter, and capable, as well as may be calculated, of containing from three to four hundred tons of hay. The carts enter in the second story; the floor or drive-way is continued round by the wall for the whole of the circle, so that the

cart passes round the entire distance, and when the hay is discharged, goes out at the same door at which it entered. All the hay is deposited in the centre. Several loaded wagons may stand on the floor, and be sheltered and unloaded at the same time.

The roof is a beautiful and curious specimen of carpentry; and appears to be most securely supported. In the centre of the floor, there rises to the apex of the roof a single column as large as an admiral's mast, around which a hollow frame of slats is fixed and which serves as a ventilator or chimney to discharge the steam of the hay. It is open at the top, and protected by a small cupola against the rain. At the same time the hay is raised from the ground, about a foot by an open floor of slats, so that there is, while the hay is new, a constant circulation of air up this chimney; and one of the friends informed me, that the steam passing from the hay in this mode was oftentimes so dense, that, to use his own expression, "you could wash your hands in it." The arrangements for the cattle are in the lower story, where every animal has its place and number, and where every cow is designated by a label on the post as in milk or otherwise. In this circular form, there is of course a considerable loss of room; yet the method of feeding is easy; the place is kept clean; the whole arrangements are convenient; and the kindly treated animals standing around this huge mass of hay, have at least the pleasure of seeing the good things in store for them. These friends have singular advantages, in the amount of labor which they are able at any time to command and apply to any object which they have in view; and their establishment presents a beautiful illustration of the advantages of well directed industry, neatness and order. The great rule of domestic economy "a place for every thing, and every thing in its place," is nowhere more strikingly exemplified; and though they make no pretensions to the fine arts, and have little of what is called taste, yet all their arrangements, and the products of their labor, exhibit the proofs of thoroughness, permanency, utility, and substantial comfort.

Their dairy is exquisitely neat in every part of it. Their piggery is the exclusive concern of a single individual; and illustrates the utility in a large concern of a division of labor and of individual responsibility. They have attempted an improvement of their neat stock, by the introduction of some of the improved breeds, and the young stock which they were raising from this cross, promised extremely well, though no opportunity had been had to test its qualities for milk. Their land is considered in a great measure unfavorable to the production of grain: and a large portion of their bread stuff therefore is purchased. They have likewise occasionally hired extensive tracts of meadow on the Mohawk river in the state of New York, which they have cultivated by colonies, in order to obtain brush for the manufacture of brooms, a branch of business which heretofore they have caried on to a considerable extent. They keep a large flock of sheep; and all their woollen fabrics are manufactured among themselves. They likewise are very extensively engaged in the raising of garden seeds, which are put up in a very neat manner, as is well known, and distributed over the country.

A three story brick building or college, erected for one of their families, is most remarkable for its neatness and the excellence of the materials and workmanship. What, by the "world's people," is called taste, that is a study of symmetry and beauty in the forms of objects, is studiously abjured by this remarkable community. Yet in the perfection of finish, which they bestow upon every production of their mechanical industry, they show that native perception of fitness, order, and harmony, which constitute the elements of the most cultivated and refined taste. The same amount of expense and labor, of which they are never sparing, already devoted to the construction of their buildings and the arrangement of their grounds, had they indulged themselves even in a slight degree in tasteful ornament and embellishment, without impairing at all the convenience, utility, or permanence of their works, might have rendered them extremely beautiful. In so doing they would have found in them a new and prolific source of pleasure, may I not add also of improvement. I know their candor will pardon these suggestions which have no unkind origin; and which have their foundation in the universal beauty of the natural world, as seen every where and always even in the perishable crystals of the frost, and the fading tints of the sky, in the plumage of the birds, in the unrivalled splendors of the vegetable world; in a word in every production of the divine power and goodness from an atom floating in the sunbeam to a planet, wheeling its course in the glittering arches of the skies.

Domestic Economy.

In looking over my returns, I was struck with the remark of a man of much practical wisdom and one of the best farmers in the Commonwealth. He says "that a farmer should produce upon his farm all those supplies for his family, which the farm can be made to yield." In his case this is done within doors and without; for there the spinning-wheel has not forgotten to turn round, nor the shuttle to speed its flight. In this cot-

tage, whose neat and beautiful arrangements cannot be surpassed, the clothing, the bedding and the carpeting were all the product of their own fields and flocks. I shall not soon forget the unpretending and hearty hospitality of these enviable dwellings. I have slept many a time under a silken canopy, and trodden many a carpet as soft as the pride of eastern luxury could make it; but never with any thing like the sentiment of honest pride and independence with which I saw here. The floors spread with carpets made from their own flocks, which for fineness and beauty the foot of a princes need not disdain; and on a cold night slept in woollen sheets from their own looms as soft as the shawls of Cashmere; and wiped my face with towels spun with their own hands from their own flax, of a whiteness as transparent and delicate as the drifted snow. In such beautiful examples of domestic management, it is delightful to see with how limited means the best comforts and luxuries of life may be purchased. Nor were these instances few. The county of Berkshire abounds with examples of this domestic comfort and independence. Much to be regretted will be the change, which has already invaded many parts of the state, when, under the pretence of superior cheapness, these household fabrics shall give place to the more showy but flimsy products of foreign industry; and the healthy exercise of domestic labor and household cares shall be deemed degrading in our wives and daughters; and exchanged for the idleness and frivolities of pride and luxury.

I agree entirely in the sentiment above expressed, that every farmer should, as far as possible, supply the wants of his family from his own farm. He should supply himself with bread, meat, vegetables, milk, butter, cheese and clothing, so far as his farm can be made to do it. He can almost always do it at a less expense than he can purchase these supplies. The labor requisite for this purpose may often be given at times when it would not otherwise be occupied; and by hands for which there might otherwise be no employment. The sentiment of self-respect and self-dependence, inspired by such a course, is a great gain. The satisfaction of eating bread raised by one's own labor is not small; and various and important moral influences, which I shall not now discuss, render it altogether desirable; though in some cases the same amount of labor consumed in their production, if applied in other ways, would purchase a larger amount of the same supplies. Though the supply of our own great wants from our own farms might seem, however, in some cases to be a *pecuniary loss*, it is always in the end a *moral gain*, with which the pecuniary loss is not to be put in competition.—*Colman's Survey.*

Comparative value of Hay, Vegetables, and Corn.

I wish briefly to draw the attention of farmers to the value of hay, compared with other crops, for the feeding of stock. An acre of hay yields one ton and a half of vegetable food. An acre of carrots or Swedish turneps, will yield from ten to twenty tons; say fifteen tons, which is by no means an exaggerated estimate. It has been ascertained by experiment, that three working horses, fifteen and a half hands high, consumed at the rate of two hundred and twenty-four pounds of hay per week, or five tons one thousand and forty-eight pounds of hay per year, besides twelve gallons of oats each per week, or seventy eight bushels by the year. An unworked horse consumed at the rate of four and one-quarter tons of hay in the year. The produce, therefore, of nearly six acres of land is necessary to support a working horse by the year; but half an acre of carrots, at six hundred bushels to the acre, with the addition of chopped straw, while the season for their use lasts, will do it as well if not better. These things do not admit of doubt. They have been subjects of exact trial.

It is believed that the value of a bushel of Indian corn in straw and meal will keep a healthy horse in good condition for work a week. An acre of Indian corn which yields sixty bushels, will be ample for the support of a horse through the year. Let the farmer, then, consider whether it be better to maintain his horse upon the produce of half an acre of carrots, which can be cultivated at an expense not greatly exceeding the expense of half an acre of potatoes, or upon half an acre of ruta baga, which can be raised at a less expense than potatoes, or upon the grain produce of an acre of Indian corn, or on the other hand, upon the produce of six acres of his best land in hay and grain; for six acres will hardly do more than to yield nearly six tons of hay and seventy-eight bushels of oats. The same economy might be as successfully introduced into the feeding of our neat cattle and sheep.

These facts deserve the particular attention of the farmers who are desirous of improving their pecuniary condition. It is obvious how much would be gained by the cultivation which is here suggested; how much more stock would be raised; how much the dairy produce might be increased; and how much the means of enriching the land, and improving the cultivation, would be constantly extending and accumulating. But when we find on a farm of two hundred acres, that the farmer cultivates only two acres of potatoes, one acre of ruta baga, and perhaps a quarter of an acre of carrots, we call this "getting along," in the common phrase; but we can

hardly dignify it with the name of farming. I am aware that labor of a proper kind is in many cases difficult to be procured, and with our habits, as difficult to be managed. Farming likewise, can in few situations be successfully managed, unless the farmer has capital to employ, equal at least to one year's manure and one year's crops. A large portion of our farmers, also, from the nature of their habits and style of living, are so prosperous and independent, that they have no occasion to extend their cultivation beyond what it now is, in order to meet their wants; and to incur all the trouble, vexation, and risk of employing more labor, expending more capital, and increasing their cares.

But it is not fair to produce such instances as any examples of the profit or unprofitableness of husbandry, when carried on, as all other branches of business, to be successful, must be caried on with intelligence, skill, industry, enterprise; and all the capital and all the labor which can be advantageously employed in it. I will not, however, anticipate such general views of the subject, as I propose to take in the retrospect of the whole survey. —*Colman's Survey.*

Birds on Farms.

The value of birds in districts settled as thickly as the county of Philadelphia, is appreciated by but few individuals. The beauty of their plumage delights the eye; their song cheers the husbandman in his toil, and give a charm to the country which no resident can too highly appreciate. The joyous twitter of the swallow and the martin, the song of the blue bird in the spring, the delightful wild notes of the partridge, the lark, the plover, the robin, the thrush, the mocking-bird, and the sparrow, awaken an interest in those companions of the farmer, which should impel them to prompt and energetic exertions for their preservation. And let me ask, was there ever a time when these interesting creatures demanded protection more than at the present period? In this county, our farms are overrun by parties of worthless boys, and more worthless men, who employ their time in destroying whatever comes in their way. They break our fences, alarm and very often injure our cattle; jeopardize the lives and limbs of our people, and the teams with which they are at work, and many of them do not hesitate to plunder us of our poultry when an opportunity offers. They tread down our crops and injure and annoy us in various ways, and all for the ostensible purpose of destroying the few birds which yet remain with us, which are not worth to them the cost of the powder and shot used in their destruction. When our horses are alarmed and become unmanageable in consequence of their firing, they very often refuse to abstain from what they denominate their sport; and my people have been compelled to quit their work for fear of some serious accident, and still they would persevere. Let us no longer submit to such annoyances and injury, but assert our rights boldly and fearlessly. There is a law which applies to this county, which, if put in force, is abundantly sufficient to afford our birds protection, and to rid us of this intolerable nuisance. The value of birds to a farmer, few are able to estimate. To say nothing of the songs of those warblers, to which I always listen with delight, their value in the destruction of bugs, flies, worms and noxious insects, is incalculable. The swallow, the martin and many others, busily employ themselves in destroying musquitoes, flies and other tenants of the air, which annoy us with their sting, or injure us in other respects.

The robin, woodpecker, sapsucker, and various other birds, protect our orchards, destroy the worms and insects that can there do us mischief, and in their absence there is no little labor required to protect and save the trees which their industry alone would relieve us from. Besides, they do their work better than we can. The presence of a worm in a young tree is only indicated to us by the borings thrown from the orifice made by his entrance, and in removing them with a knife, serious injury is done to the tree. The bird, on the contrary, eats the egg, destroys the worm when young, or if he has avoided his vigilance and got under the bark, nature has endowed the two last mentioned with a strong bill with which to strike through the bark, and long and rough tongues with which to drag the lurking villain from his hiding place, and that too with the least possible injury to the tree. Where is the farmer who has not seen his apple trees perforated along the whole length of their trunk by these industrious laborers; and who has not seen such trees distinguished for their health and fruitfulness?

I can recollect when there were large orchards of healthy trees in parts of this county, where it is now almost a folly to attempt to rear an apple tree. Those orchards that are near clumps of wood, may still exist here, but where there is no such harbor for birds designed for their preservation, it is in vain to attempt to rear a tree and preserve it against the destructive ravages of the insects that feed upon it.

The partridge, the plover and lark, too, feed upon insects and labor diligently to promote the interests of the farmer in destroying his enemies. What gives a man more pleasure than when walking over his grounds, he is welcomed by the shrill whistle of the partridge, who, grown familiar with his friend

and daily companion, cheers him in his toil and delights him when at leisure!

These birds I have often seen so tame that they would scarcely leave my path, and I remember a covey that, during one winter, would frequently come to my gravel walk, to receive the feed that was placed there for them.—They amounted to about twenty, and I set a high value upon them; but there came upon my farm, during my absence, two gunners with their dogs, and destroyed them all. I assure you, I felt the loss of those birds more than I would that of the best horse in my stable.

For myself, I feel in regard to my birds, as the ancients did of their household goods: nor can I control a feeling of indignation and a sense of injury, when I see my neighbors or strangers wantonly destroying them upon my premises. There are many depredators in our wheat-fields that are destroyed by the partridge; for it is on these he feeds. The lark and the plover do their work in our grass lands. The sparrow, blue-bird, wren and other small birds, labor diligently in our gardens, orchards and pleasure grounds, and they should be welcomed as agreeable visiters by all who reside in the country.

Boxes for their accommodation, should be nailed to the trees, and by carefully avoiding to alarm them, and other kind means, they could be domesticated among us. They will otherwise take to the woods and by-places, and we shall be deprived of the pleasure of listening to their cheering songs, and lose the advantages of their incessant labors.

Farmers, think of this. Let us not be unkind to our neighbors, nor deny them reasonable privileges, but do not continue to refrain from expressing a sense of injury at their depredations, and of making known to all the high value we set upon our birds.

Penn.

Receipt for a Cold or Cough.

Take a small tea-cup full of flaxseed, put it in a quart of water, and let it boil down to a pint. Then add four large table spoonfuls of the *best* sugar-house molasses; let it simmer over the fire about ten minutes; set it away until cool; then add a few drops of lemon juice. Dose—a wine glass full occasionally through the day for an adult.

Another.—Two ounces of flaxseed, the same quantity each of hoarhound and bonesett in the herb,—boil in half a gallon of water until reduced to about a quart; then add a tea-cup full of the best sugar-house molasses, let it stand over the fire a few moments. Dose, same as the above.

Finish every thing as you go along.

Mowing.

They who have not been in their youth accustomed to do this work, are seldom found to be able to do it with ease or expedition. But when the art is once learnt, it will not be lost.

As this is one of the most laborious parts of the husbandman's calling, and the more fatiguing, as it must be performed in the hottest season of the year, every precaution ought to be used which tends to lighten the labor. To this it will conduce not a little, for the mower to rise very early, and be at his work before the rising of the sun. He may easily perform half the usual day's work before nine in the morning. His work will not only be made easier by the coolness of the morning air, but also by the dew on the grass, which is cut the more easily for being wet. By this means he may lie still and rest himself during all the hottest of the day, while others who begun late are sweating themselves extensively, and hurting their health, probably by taking down large draughts of cold drink to slake their raging thirst. The other half of his work may be performed after three or four o'clock, and at night he will find himself more free from fatigue.

If the mower would husband his strength to advantage, he should take care to have his scythe, and all the apparatus for mowing, in the best order. His scythe ought to be adapted to the surface on which he mows. If the surface be level and free from obstacles, the scythe may be long and almost straight, and he will perform his work with less labor, and greater expedition. But if the surface be uneven, cradley, or chequered with stones, or stumps of trees, his scythe must be short and crooked. Otherwise he will be obliged to leave much of the grass uncut, or use more labor, in cutting it. A long and straight scythe will only cut off the tops of the grass in hollows.

A mower should not have a snead that is too slender, for this will keep the scythe in a continual tremor, and do much to hinder its cutting. He must see that it keeps perfectly fast on the snead; for the least degree of looseness will oblige him to use the more violence at every stroke. Many worry themselves needlessly by not attending to this circumstance.

Mowing with a company ought to be avoided by those who are not very strong, or who are little used to the business, or who have not their tools in the best order. Young lads, who are ambitious to be thought good mowers, often find themselves much hurt by mowing in company.

Mowers should not follow too closely after each other, for this has been the occasion of

fatal wounds. And when the dangerous tool is carried from place to place, it should be bound up with a rope of grass, or otherwise carefully secured.

For the Farmers' Cabinet.

Dialogue between a Father and Son.

ROT IN SHEEP.—A WELL PLANNED GARDEN.

Frank. Father, I have just met John Ross, who tells me his uncle has lost two of his most valuable sheep by the rot, and that he fears he shall lose many more from the same cause; is there not a danger that our sheep will catch the same distemper, for you know they sometimes mix with them on the common. I suppose the disease is communicated in this way, for many of our neighbors are complaining of the ravages of that cruel disorder, and are separating their flocks to prevent contagion. Have you ever suffered in this way?

Father. I have never lost a sheep by the rot, but I attribute my security from this scourge, to observation and reflection. While I am, as much as any one, an enemy to what is called mere "book knowledge," it is not possible for a farmer to follow his business without being incessantly called upon for practical observation and reflection, and this, to an intelligent man is the greatest pleasure. Well might the good man of old walk into the fields at even tide to meditate; this is the proper season for *reflection*, the early morn for *observation*.

Frank. What a beautiful distinction! I must note that down.

Father. The disorder called the Rot, is not contagious, but is generally caused by taking cold and watery food into the stomach, where, instead of digesting, it becomes putrid, and engenders life; the liver of sheep which die in the rot is full of small creatures called flukes, something like flat fishes; these perforate it like a honey-comb, causing the death of thousands. But it is a curious fact, that ewes, even when irrecoverably gone in the rot, do not die while suckling their lambs; when these are weaned however, they often die off by hundreds, and the evil is oftentimes much augmented, by their lying in low and damp pastures; for it is discovered that the air which surrounds them in such situations, is loaded with poisonous vapor, which, being heavier than pure atmospheric air, cannot rise into it and thus become purified, but remains near the surface, and is inhaled by the sheep, whose heads are low; while larger animals, whose heads are above the stratum of poison, will remain in health in pastures which are destructive to sheep. Do you understand how this is?

Frank. Yes, perfectly, and this reminds me of what I was reading, but yesterday, concerning a cavern in Italy, into which if a dog enter, it is destruction to him, while a man feels no inconvenience whatever, as the bad air, by its heaviness, is confined to the bottom of the cavern; it is from this circumstance called "Grotto del Cano." And, look at our sheep at this moment! they are all lying on that little rising ground, as though they were perfectly acquainted with the subject on which we are speaking, and feel, no doubt, the comfort of that situation.

Father. True, and what will strike you very forcibly, observe that knoll, or rising ground the next foggy morning, and you will perceive that it is in a clear atmosphere, whilst all the lower parts of the same field, and the adjoining lands, appear as though they were covered with water, the whole being enveloped in fog: and you will be able to mark exactly the height to which the bad air of the low lands extends. But, even at the present moment, this poisonous atmosphere is there, although it is now invisible; the coolness of the mornings and evenings will, however, render it perceptible. This is one reason why I always commence folding the sheep at the highest part of the field, that they might have the higher ground to retire to for rest; and hence, another advantage arises, which some of our neighbors do not seem to comprehend; the higher parts of the field receive, as they should do, the greater proportion of the manure. But I am confident that much of my security from this disorder, arises from the use of lime, which is a corrector of the acidity of the soil in the first place, and in the second, is destructive to the whole family of aquatic plants, replacing them with those grasses which are *indigenous*, or native to a limestone soil, upon which sheep never rot. You know, too, that I am careful to drain all wet and springy parts of the fields, and this is a labor which our adjoining neighbors do not covet. I also allow salt for the use of the sheep, which is placed in troughs under shelter; an excellent practice.

THE GARDEN.

But come, now the weather is fine, we must think of the garden—we must be gardeners as well as farmers, for much profit as well as pleasure is to be derived from a good garden well cultivated. I do not, however, approve of doing much in this early part of the year, although many are tempted by a few warm days, such as we have enjoyed of late, to sow their seeds, which had better be reserved for the next month; March being, in this part of the country, early enough for general crops. There is, however, just one sort of work which is peculiarly suitable to the present early season, and which ought to be done be-

fore any crops are sown; it is *catching the mice.* I have often laughed at those, who never think of setting traps for these vermin until they sow their peas, when, after scattering them by handsful into their very holes, they stick up one solitary pea, to entice them from such a bountiful feast! I always say, as my father did, "first catch your mice, and then sow your peas," and by setting plenty of traps at this season of scarcity, you will be sure to catch every one in the garden.

Frank. I have heard that my grandfather was the best gardener in this part of the country; was it he that planned this delightful garden;* that brought this little stream across the hill, and made it fall so gracefully over these rocks into the basin below, and to fill the pond in the centre, in which we see so many fishes playing about; who planted those willows that hang so beautifully over it, and placed the seats under them so judiciously, that by changing our situation, according to the position of the sun, we can always see to the bottom of the water!

Father. Yes, my boy, it was he who did all this, and every thing else which you see—it is to him that I am indebted for more than life! and I feel a holy reverence when I think of my father! But come this way, and I will show you what else he did, and what, by his instructions, I have been enabled to do in fulfilment of his original ideas, for I have never deviated from the plan which he first laid down, and to this circumstance I attribute the success which I have experienced. The whole of what is now the Garden and Orchard, was nothing but a wilderness at the time when my father entered upon this *farm*, we call it now—then, it had a different name —*waste.* It had a thick covering of bushes and briers, and appeared a chasm, which no one knew any thing about. My father observed it had a southern aspect, and that the declivities on its sides, were not so great as had been imagined. I was then just your age, and as you are now *mine*, so was I then *his* companion. I remember the evening when he came to the determination to turn this den of brambles into a garden, and I shall never forget the ardor which I felt, when looking forward to the time, when I should see it, as it is at this moment! He sketched the plan in an instant, and the next evening the axe and the mattock were busily employed amongst the bushes. "Now, George," said he "remember our text, '*nothing is impossible to a willing mind*,'" and I assure you we *stuck to it*—in fact, we surprised even ourselves—in less than a month, the laborious part of the work was completed: by digging down the sides of the glen, we were enabled partly to fill the centre, and by forming the walks, we obtained earth sufficient to cover the borders, which were raised considerably by the operation; and thus he obtained those very pleasant terrace walks around the sides, so much admired by all who have seen them. Still, however, there remained a hollow in the centre, partly covered with large stones, and to make what is called a *virtue of necessity*, he so contrived that this should form a fish pond, and he soon found a way to convey water to it from the opposite side of the hill; and by placing large rough stones at the top of the chasm, where the water first comes over the top of the declivity, he obtained a water-fall twenty-five feet in height: to this you approach from below by a narrow winding path beside the pond, and it was his happy thought to excavate a basin at its foot, to receive the falling water, and by the side of it, to plant the willow and place the seat, which is so much admired, as well as to plant the acclivity in such a way as, in the summer, to form a retreat, impenetrable to the sun's rays.—You see that the walks in the garden are wide enough for persons to walk in company—this, at the time they were formed, was considered a waste of land—my father knew better; for by having no paltry cross walks, he actually saved by the plan, which is now so much approved of. The four quarters of the garden, and the southern border, are appropriated to the raising of vegetables and fruits, whilst the eastern and western borders are devoted to flowers, a love for which I inherited from my father; and the care of these being given to your dear mother and sister, I need only point to them to show how well they perform their pleasing task.

The water which flows from the fish pond, is made to fill the canal, the bottom of which being covered with gravel, forms the water cress bed, the produce from which is so superior to all in the neighborhood, as to bring a higher price in the market; this arises from the crop being grown on gravel, where it might be kept clean from weeds, and the water coming on, after depositing its mud in the fish pond above. From this canal, the water is carried by a trench down the middle of the orchard, and then either passes in a serpentine course across the meadow below, for the purpose of watering its surface, or is conveyed in a straight course down the ditch to the mill stream, either way, which is most proper.

Frank. As very much of the productiveness of a garden must depend on judicious cropping, would it not be easy for a person, who is competent, to make a sketch and give instructions upon paper on the subject, so that the owner might have at one view the different departments, stocked with suitable crops,

* See Cabinet, vol. ii, page 351—article, "The Grove Farm."

with directions when to sow and plant, how to manage the crop while growing, when to take it up, and how to preserve it, &c.? The course might vary as on a farm, and might thus be made doubly productive; I have often seen two or three different crops growing on the same spot in your garden, especially on the southern border, now this must be very advantageous.

Father. As I have often witnessed the inconvenience and loss of labor attending upon a large garden on a farm, my object is, to have no more land devoted to this purpose than is sufficient for the supply of the family; my plan is, therefore, to make the most of what I have, and I can thus easily keep every part of it clean, and there is no pleasure in a garden that is not so. But as in farming, so in gardening; much depends on soil, situation and circumstances; these must be understood before a judicious plan can be adopted, after which, however, the thing is easy and pleasant. I sow, at the same time, on the southern border, a mixture of radish, spinach, and lettuce; the radishes come fit to draw early, and this leaves room for the spinach to spread, which, as it becomes fit to cut, is cleared in wide intervals, in which dwarf French beans are planted; and when all the spinach is removed, cauliflower plants are set between the rows of beans, which, in their turn, give place to a crop of celery, which is planted in deep trenches with plenty of dung: this trenching and dunging is peculiarly favorable to such another rotation of crops the next spring.

I plant English beans wide enough to admit rows of late cabbages between them; these are planted after the beans have attained their full growth; they are thus shaded by them, during the hot weather, and yet are not injured by being overgrown, for by the time the cabbages require more room, the beans are removed, and the land where they grew being dunged and dug deep, the cabbages strike fresh root and flourish amazingly. I plant in the summer, alternately, a row of broccoli and a row of savoy cabbages, after the crops of peas are removed; the savoys are cut during winter, and the space well dug and dunged, which gives a start to the broccoli in the spring and insures large heads; and when this crop is removed, I plant the land with potatoes, upon the surface of which I sow radishes, which come off by the time the potatoes want hoeing: and at the distance of about three feet I plant English beans, these do not injure in the least the crop of potatoes, and furnish me with plenty of the finest seed for next year's planting.

Frank. Our neighbors say you are always fortunate with your early cabbages; few of them go to seed in the spring, nor are they so liable to be blighted as theirs, even when they plant from the same seed bed as yourself—how is this to be accounted for?

Father. Very easily: I plant in the autumn, as they do, but never encourage the growth of the plants by moulding them up through the winter: to be sure they do not look so thrivingly as theirs do at this season, but they are able to bear frosts and snows better than theirs, and in the spring, when their crops are giving promises which are never performed, mine are advancing surely; and amongst many hundreds, I have seldom any that go to seed. By earthing up their plants they render them more liable to the blight, which is caused by cold winds and frosts in the spring, for they have been drawn up more tenderly—just as little boys now-a-days are more subject to take cold than formerly, when great coats were not so much in fashion.

Frank. But now I think of it, you never mould up any of your crops, not even the potatoes.

Father. No, and to this circumstance I attribute my success in gardening, and did you never remark that I do not water the crops, even in the driest weather, while our neighbors are using the watering pot continually?

Frank. I have often wondered how it was that our crops throve so well in very hot and dry weather without watering, but could not account for it.

Father. You have often heard the remark, "if you begin to water your crops, you must continue to do so." Now I conceive, by watering the surface of the earth, the fibres of the roots are induced to turn upward in search of moisture, and are thus in danger of perishing for want of it, unless the watering is continued; but if none is to be obtained from above, they strike downwards, and find sufficient to support them, during the hottest season, provided the intervals are kept well pulverized by deep digging. And the practice of earthing up is, I conceive, improper on somewhat the same principle: the light earth which is drawn up around the stalk of the plant, induces the fibres of the roots to strike into it for nourishment, but when the weather becomes hot and dry, this soon dries up and they perish for want of moisture. And again, in drawing this light earth from the intervals between the rows, many of the lateral roots are uncovered and destroyed, and others are left to perish, just at the time when the plant requires the most nutriment to enable it to perfect its growth. By digging the intervals, instead of hoeing them, I render unnecessary the watering as well as the earthing of the crops, and obtain advantages over those who use both, at much less trouble and labor.

The young are slaves to novelty; the old to custom.

For the Farmers' Cabinet.

Observer---No. XVIII.

ELECTRICAL CONDUCTORS.

On looking over a late number of the Cabinet, page 261, I observed an inquiry in relation to electrical conductors. The writer appears to wish information to what distance a rod will extend its protecting influence, or in other words, whether a large building should be furnished with more than one conductor. I have already stated (p. 75) that no such distance can be assigned, because it continually varies from nothing, up to an indeterminate extent, as the intensity of the electrical charge and other circumstances vary. Perhaps an illustration of principles may be satisfactory to some of my readers.

When a body is charged with electricity it is found to acquire what is called an electrical atmosphere—that is, the air for some distance around it presents electrical phenomena. The distance to which this atmosphere extends, and the intensity of the phenomena which it presents, increase with the intensity of the charge.

This atmosphere extends to many times the striking distance of the charged body, (fig. 39.)

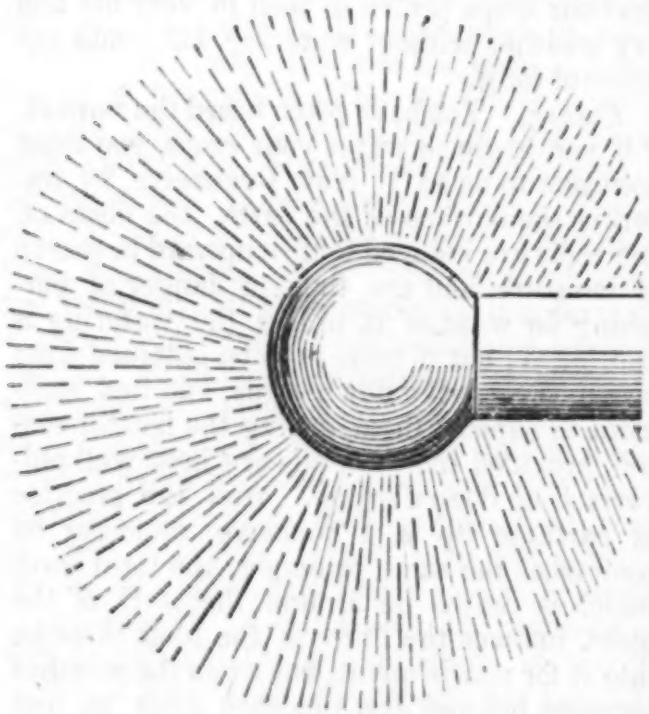

Fig. 39.

Both the existence and the extent of the electrical atmosphere may be determined by bringing the back of the hand within its influence, when a peculiar sensation will be felt long before it approaches near enough to receive a spark.

I will offer the following in explanation:—The particles of the electrical fluid have a strong mutual repulsion for each other, causing them to separate with a force which increases with the diminution of their distances. But these particles powerfully attract, and are attracted by other bodies, so as to collect upon, and from an atmosphere around them as in the figure. Their repulsive force is counteracted in part by the attraction of the body, and in part resisted by the air which surrounds them, and in a dry state is a non-conductor of electricity. Hence, as the electricity accumulates upon any body, its expansive force increases, and the electrical atmosphere is extended to a greater distance, where they find an equilibrium between that force which causes them to diverge, and the combined forces of the attraction of the body and the resistance of the air.

The size and form of the charged body also exerts a powerful influence over this equilibrium of forces. Thus the electrical fluid is found to become more concentrated at the smaller end of an electrified body, and consequently the electrical atmosphere will be found to be more widely diffused at that part, as in the annexed figure.

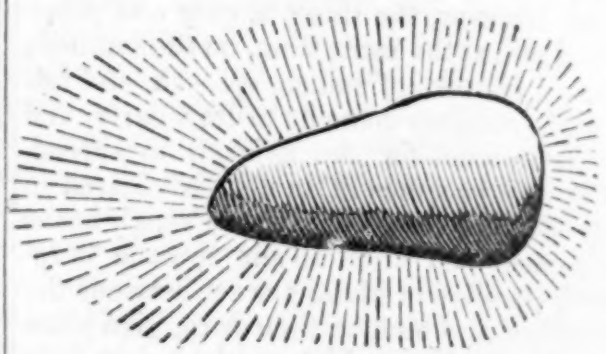

Fig. 40.

When the air is cool and charged with water in the form of vapor, it offers less resistance to the electric fluid than when more heated and dry, consequently the electrical atmosphere will diffuse itself wider in the former than the latter state of the air. Hence the electrical phenomena of a thunder storm are generally more intense in very hot and dry weather.

Now we may suppose that the conductor begins to act upon the electricity of the charged body so soon as its point enters the electrical atmosphere. But I have shown that this atmosphere is very variable in its extent, consequently the distance at which the rod can operate is equally variable. Hence, as before stated, no such distance can be assigned.

I will now endeavor to answer the inquiry of J. T. S. agreeably to the foregoing illustrations.

Suppose an electrified cloud to be spread over the building, fig. 41, at such an elevation that its electrical atmosphere shall fall within the reach of the rod at A, it must be obvious that another rod at B would perform an equally efficient part with the other in disarming the cloud and protecting the building. The same will hold true of any additional number of rods which might be put up. But we cannot

positively determine the smallest number of rods, or ascertain the greatest distance to which their protection will extend under every variety of circumstances. It will there-

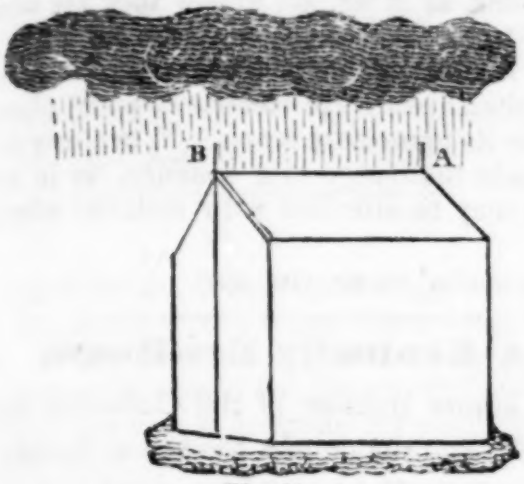

Fig. 41.

fore be prudent, when the buildings are very large, to put up two or more rods in order to keep on the safe side.

Other considerations render this precaution the more necessary. A highly electrified cloud may pass so high above the rod (fig. 42) as not to feel its influence, much less to endanger the building. But this state of security may be of momentary continuance. During a thunder storm the atmosphere is often agitated, and the clouds thrown into commo-

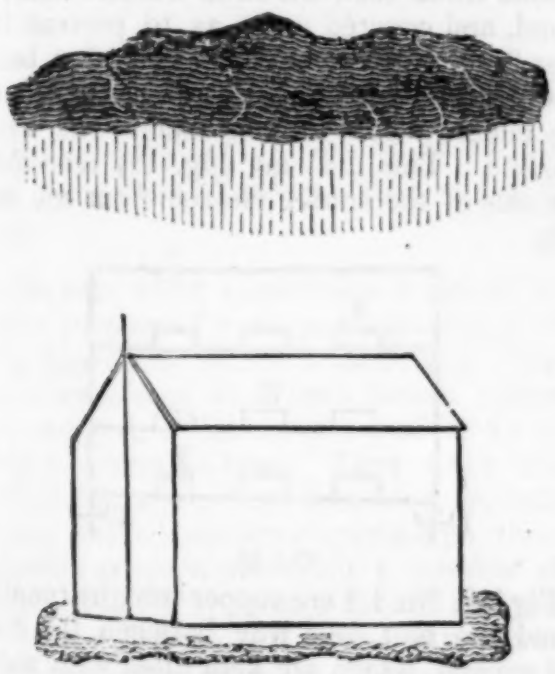

Fig. 42.

tion by counter currents of wind. They are successively scattered to a distance, and then hurled in dense masses. Sometimes they are quickly lifted up to great heights, and then as suddenly depressed near to the earth's surface. These are seasons of great danger.—While the cloud (fig. 42) is passing safely along without the rod reaching to its electrified atmosphere—a sudden convulsion of the air may in an instant change its form and position, as represented in fig. 43. The cloud may simultaneously approach near to the building—become greatly condensed, and thus have the intensity of its electricity vastly increased—and by the change in its form, the

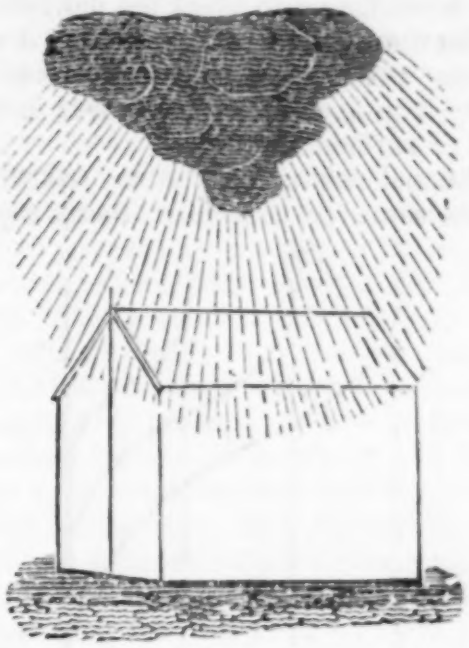

Fig. 43.

greatest accumulation of the electric fluid will be accumulated in the smaller extremity. This combination of circumstances would be productive of the greatest danger to contiguous buildings. It is quite impossible to determine how far the gradual operation of a single point could be relied upon to avert the danger in this extreme case. Prudence however, would seem to dictate the employment of more than one rod, especially where the building is very large.

Again, the thunder cloud A (fig. 44) may

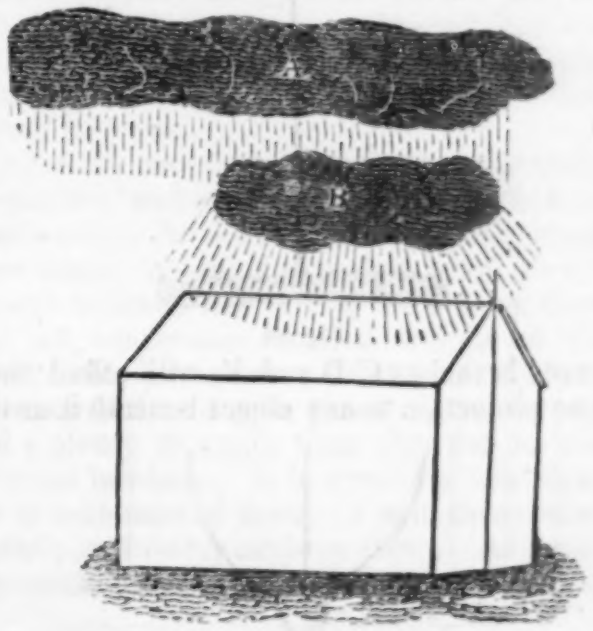

Fig. 44.

be situated at a harmless distance, as in fig. 42, but a cross current of wind may suddenly bring the cloud B between it and the building. In this case B may form a sort of stepping-stone, or intermediate point for the electricity of A to strike to, and thence to the building. As there would not be any appreciable inter-

val of time between the two explosions, during which the rod could disarm the lower cloud, it may be doubtful whether one point would be sufficient to avert the danger.

Under these several circumstances it would seem that two or more rods would afford more security than one—or at least over a wider extent of surface.

Additional points to the same rod will answer the same purpose as so many separate

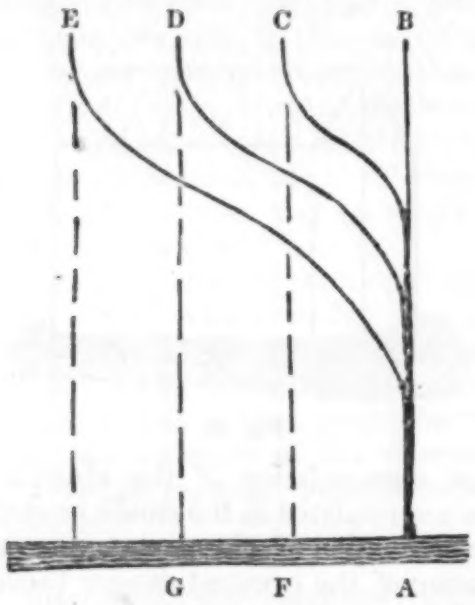

Fig. 45.

ones, provided the points occupy the same positions. Thus the rod A B, (fig. 45,) with its

Fig. 46.

curved branches C D and E, will afford the same protection to any object beneath it as if

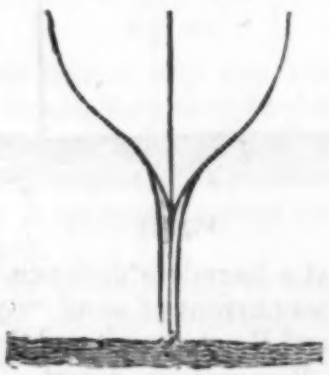

Fig. 47.

separate rods were erected at F G and H.—This arrangement may therefore be adopted when convenience or economy may recommend it—or when there is only one suitable place to connect them with the ground.

There is reason to doubt whether much advantage is gained by increasing the number of points, as in fig. 46, unless they are separated to a considerable distance, as a single point seems capable of discharging an almost unlimited quantity of electricity when placed within its immediate reach. When they can be made to diverge to a distance, as in fig. 47, it may be attended with material advantage.

New Garden, 4th mo. 17th, 1839.

A Kentucky Bee-House.

A former number of the Cultivator contained a description of a bee-house, furnished by Mr. F. S. Fisher, which, according to the opinion of some who profess to be judges in this matter, is commendable for its convenience and cheapness. For the benefit of our readers we give the description and drawings.

The building is twelve feet long, eight wide, and seven feet high from the floor to the plate or ceiling, (the floor being eighteen inches from the ground,) and consists of four posts, eleven feet six inches long, let in the ground three feet, which is weather-boarded round, and covered in so as to prevent the bees from getting in the house, they being confined in six boxes, three on either side of the house, placed fifteen inches one above another. This drawing (fig. 48) represents one side of the house, viewed from the outside.

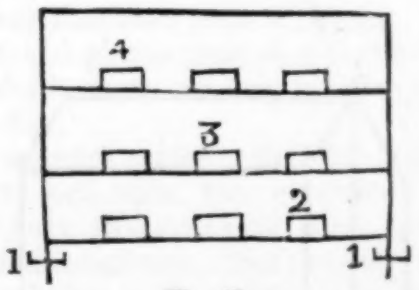

Fig. 48.

Fig. 48, No. 1 1 are copper troughs running round the post, half way between the floor and ground, which are kept filled with water to prevent ants and other insects from getting in the house. No. 2, 3, and 4 are tubes eight inches wide, one-eighth of an inch deep, to convey the bees through the wall into the long boxes, and entering them at the bottom, there being three to each long box. The drawing, fig. 49, represents one side of the house, viewed from the inside. No. 1, 2 and 3 are long boxes, eighteen inches wide and twelve deep, extending the whole length of the house, with eight holes, four inches square, in each box, upon which is set two gallon caps, with two half inch holes in each, one

near the top, the other about the centre of the cap, in which the smoke of a burning rag is

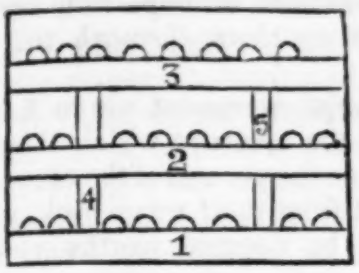

Fig. 49.

blown to drive the bees from the cap into the long box, which can be known by striking the caps. When they are all in the long box, a knife or wire should be drawn under the bottom of the cap to separate the comb from the box, when the cap of honey may be removed, and an empty one put in its place.—No. 4 and 5 are tubes three inches square, to convey the bees from one box to another, that one swarm of bees may do the whole, or if one or more swarms be put in each box, that they may become as one, as they will not permit more than one king when put together, by which they are prevented from destroying themselves by fighting. A house of this description, when the long boxes are filled, will afford, at a moderate calculation, ninety-six gallons of honey in the comb annually.

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MORE ABOUT BEES.

The Genessee Farmer of April 27 contains a very interesting communication on the subject of bees, from Windsor, Ohio. It is as follows:

In the year 1836, I erected a building for the joint purpose of a piggery, steaming, or boiling apparatus, farmer's shop, &c. The upper story is used for a corn house, except at the east end, which is occupied by an industrious colony of bees. They work in a box three feet wide, three feet deep, fourteen feet long; divided into three apartments; those apartments are furnished with a number of horizontal shelves and a door at each end, that I can open at leisure, and have a fair view of the workmen, and when so disposed take a share of the sweets of their labor. The way in which the bees are removed from the old stock, is after the following manner: I constructed three boxes (not so large as the common bee-hive) in which I put the three first swarms that come out, and set one on each of the above apartments, which has in each three one inch auger holes, so that the bees can pass through into the large box. They soon filled the small boxes and then went to work below; and, sir, if I am a judge of industry, I should say that "they and work never had any falling out." The centre swarm appeared to rather outdo their neighbors; they increased rapidly and filled up their apartment beyond my expectation. But, Mr. Editor, a singular circumstance has occurred with my bees, which I do not fully understand. Has the bee any knowledge of grandeur, or does he prefer a house that is done off in good style and well painted, to one that is not so finished!

I will state the circumstance. As my bees have been a source of profit to me for a number of years, I thought I could afford to build them a suitable dwelling. Accordingly in the spring of 1837, I erected a hovel four feet square, posts six feet high, enclosed on one side by a door, divided into six rooms, with drawers to fit exactly each room, &c. The first swarm that came out had the occupancy of said house, and they appeared to be very well suited with their new habitation. Now for my mystery. Sometime in October last, I went up into the chamber to see how the bees manage affairs, and on opening the door of the centre apartment, there was scarcely a bee to be found; they *had left their well stored habitation* for some cause unknown to me. In my daily inspection I never had noticed any *civil* or *hostile* war declared against them. All appeared to be on friendly terms with "neighboring or foreign nations." I observed however that the bees in the *next building* had to all appearance greatly increased. I watched their movements, and found that they were busily employed in "removing their deposites" from the old vaults to the new. Thinks I to myself, my hearties, if this is your plan—if the new house suits your fancy better than the one you left—if you can agree to work and live together on friendly terms—why, I have no objections. Well, sir, they appear to be doing a good business.

After the bees had finished removing their "deposites," and were satisfied that they had an ample supply for the winter, I examined their store-house, to see if they had been liberal enough to leave any for me, and I found they had left nearly one hundred weight of the finest honey I ever saw. I think that my bees do much better to give them a good house, and a plenty of room, than they did in the common bee-hive. It is certainly less trouble to take care of them. I salt them occasionally, as I do my cattle or sheep. As to the bee-moth, they have never troubled my bees.

Poetry—Female Influence, &c.

To the Editor of the Farmers' Cabinet.

Sir,—On returning from my daily task, that of turning an acre of land with one of "Prouty's Long-sods," I found my wife and daughters busily engaged with the May number of the Cabinet, in the hope of finding more poetry like that most exquisite "Hymn

to the Flowers," at page 285. If, Mr. Editor, you continue to interest the female portion of our families, your business is done; no one can calculate the influence of the women, and when that is in a right direction, every thing goes well. I never visit a family for the first time without examining very closely the character of the females belonging to it; if these are intelligent and fond of poetry, I know that all is right, and if they keep a *scrap-book*, I am sure that every thing in the house and around the house is as it should be; indeed, the influence of the scrap-book might be traced even to the garden, for what girl, who is fond of flowers and poetry, will allow her parterre to be overgrown with weeds? And then the next thing is, to witness the honeysuckles twining around the door, and creeping in at the windows! When I was a young man, in search of a wife, I always considered such *prognostics* as a sure *sign* that "good entertainment" was to be found within; and the choice which I was so fortunate as to make from such a recommendation, emboldens me to press it upon the notice of all who are upon the same errand.

But to return to that Gem, the "Hymn to the Flowers," you must know, sir, that the law in our family is, to have as little as possible to do on the Sunday, that it might be, indeed, a "Sabbath,"—a day of rest to "man and beast,"—to this end, my wife and daughters vie with each other in preparing for it on the Saturday; all that can then be done, is done, even to the decoration of the parlor with fresh flowers, after a thorough *cleaning and righting;* so that when we rise on the Sunday morning, which we always do, earlier than on any other day, we feel the luxury of a "Sabbath morning!" My house is situated within a short distance of the church, and after an early breakfast, and while the women are *putting things away* and preparing for their approaching duties, (my daughters are teachers in the Sunday-school,) it is my custom to visit all the animals upon the farm, to congratulate them upon the return of their day of rest—their holy day; and then, to enter the wood, which adjoins the garden, and throw myself along upon the sod and repeat, from beginning to end, the "Hymn to the Flowers," applying those endearing epithets with which the verses commence, to them *in person*—

"Floral Apostles; that in dewy splendor,
Weep without wo, and blush without a crime!"

But it is not possible for me to describe my feelings, or the devotion which springs up within me on such occasions—they are the holiest of the holy, and attune my heart to the performance of the services of the church in a way quite unutterable! Need I add, that after such a "Sabbath of the soul," we begin the week with an *elasticity* of feeling which gives such an impetus to our exertions as carries us *clean through till Saturday night?*

My daughters request me to hand you, in return for the pleasure which they have experienced in the perusal of the above "Hymn," an extract from their *scrap-book*, which they hope will be deemed worthy your acceptance.

R. G.

Bucks county, 20th May, 1839.

The following beautiful lines are from a "Selection of Irish Melodies," by

THOMAS MOORE.

Oh! had we some bright little Isle of our own,
In a blue summer ocean, far off and alone;
Where a leaf never dies in the still blooming bowers,
And the bee banquets on thro' a whole year of flowers—
Where the sun loves to pause,
With so fond a delay,
That the night only draws
A thin veil o'er the day—
Where, simply to feel that we breathe—that we live,
Is worth the best joy that life elsewhere can give!
There, with souls ever ardent, and pure as the clime,
We should love, as they loved in the first golden time.
The glow of the sunshine, the balm of the air,
Would steal to our hearts, and make all summer there.
With affection as free
From decline as the bowers,
And with hope, like the bee,
Living always on flowers;
Our life should resemble a long day of light,
And our death come on holy, and calm as the night.

Soiling Milch Cows.

The Zoarites, a religious sect of Germans, on the Muskingum river in Ohio, keep their milch cows constantly in the stall and feed them with the offal of the milk, hay, roots, &c., and they are said to yield an extraordinary quantity of milk—some twenty quarts a day through the year. They also pay particular attention to their cleanliness. Their stalls are thoroughly washed daily, and the water used for this purpose, is carefully collected in reservoirs, and applied, in the form of liquid manure, to their hot houses and gardens.

In a late communication to the British Board of Agriculture, it stated that thirty cows, one bull, four calves, and five horses, were fed through the summer from fifteen acres of clover, sown the preceding year.—The labor of two men and two women was sufficient to tend them, and the nett produce of the season, in butter, from June to October, was £19 10*s.*, nearly $90 from each cow.—*Silk Culturist.*

For the Farmers' Cabinet.

Fat Mutton—Roots.

It is to be regetted that so little attention is paid to the proper sheltering of cattle in this country. One would naturally suppose that the interests of owners would point out a proper course; and that once systematized, and the advantages of strictly attending to the comfort and convenience of our cattle made manifest, even to the most sceptical, that whole neighborhoods would adopt the system, and that, in a reasonable length of time, it would very extensively, if not universally, prevail. It is lamentable to say that this is *not* the case. For some reason or other, which I have not as yet been able to ascertain, improvements make but slow advances among our farmers. It may be, that they consider improvements as innovations in those customs which have "grown with their growth." Some, with the evidence before their eyes, evidence which they cannot possibly resist or gainsay, refuse to profit by the experience of others. I have several cases in point, one of which I will note. For a number of years I have been in the habit of attending the Philadelphia market, principally with mutton, and as I always personally superintended my sheep and other animals on the farm, and saw that they were regularly and sufficiently fed, I generally brought meat which I was not ashamed of, and which by its good quality recommended itself to purchasers, insomuch that I had no difficulty in securing a regular set of good customers, who cheerfully paid a fair price for a good article. Some of my neighbors attended the same market—but as I generally sold out first they thought I was "uncommonly lucky." Four years since I obtained a quantity of the seed of the French sugar beet, and put in an acre by way of experiment, not in the way of making *sugar*, but the making of *fat*.—This first trial fixed me. My cows, sheep, and hogs were very fond of them, during the long and severe winter which followed. They all kept in good heart and condition; what surprised me most was the rapid manner in which my sheep, fed on the sugar beet, took on fat; and when carried to market the saddles excited particular attention, from their very superior appearance. But it was not in appearance only; the meat was of a much better quality, more juicy, and exceedingly tender. The inquiry was, "why, sir, on what do you fatten your sheep?" And when I replied, on the sugar beet, hay, and a small portion of corn, it would generally call forth an exclamation of surprise. Ever since I have been a grower of sugar beet, the meat I take to market is always in demand, and brings several cents more per pound than that fattened in the old way; and yet, strange to say, some of my neighbors, although I have urged them, will not plant the beet for their stock. I have been benefited to the extent of several hundred dollars by the introduction of this root—the effects are visible—my neighbors know it—and yet they stand lookers on, halting between two opinions. But light is breaking in upon us, and of one thing you may be assured, that is, that the time is not far distant *when every extensive stock feeder will be an extensive root grower.*

To the delinquents, and there are many in my vicinity, I would say, "rouse ye from your lethargy, and although for the present season you have lost the advantage of planting the sugar beet and the mangel wurtzel, yet you may in some measure atone for your past neglect, by putting in immediately a sufficient quantity of ruta baga. You have time enough for this, but none to lose. The ruta baga is an excellent root—plant it liberally—cultivate it thoroughly—and you will find your account in it in more ways than one, if you are spared until the ensuing winter.—Depend upon it, there is nothing better for cattle than roots, properly prepared. I put in some of almost all kinds; and I find carrots answer well for a change. But with me the sugar beet is superior to all others. My way of feeding is simple. When the cattle are housed they are kept constantly furnished with good hay, have roots three times a day, with an occasional change to corn or cut feed. I find great benefit from currying my cows—indeed, it seems to me as necessary to curry a cow as a horse—and if any one will make the experiment as I did on two oxen, it will remove every doubt. They were both put up at the same time—fed precisely alike—and the treatment throughout was similar in every respect, except in the use of the curry comb, and the ox on which it was used was in *reality*, as well as in appearance, six per cent. better than his fellow. The cause of this must be apparent to every reflecting mind.

N. I.

Delaware county, May 18th, 1839.

Decay of Peach and Pear Trees.

To the Editor of the Farmers' Cabinet.

The "Old Farmer" has set himself the task of going over the pages of the Cabinet, from the commencement, for the purpose of noting the papers which recommend the use of alkaline substances for the prevention or cure of the premature decay of pear and peach trees: he finds them to be 18 in number; but none are more decidedly to the purpose than that which is contained in the number for May, p. 314. He still considers the principle and practice to be consistent with common sense and reason, for "as oxygen is the

basis of acidity, with which all putrid substances are highly charged, so calcareous substances, and especially lime, its natural opponent, are exactly calculated to produce the effects contemplated."

It is to be hoped, that every one, having peach trees in a declining state, will immediately determine to give the thing a fair trial; and during the summer, while the trees are in a bearing state, will be the best time, to enable them to bring their fruit to perfection and preserve them from a premature autumnal decay.

Philadelphia county, 20th May, 1839.

For the Farmers' Cabinet.

Farm Houses.

In a general travel through our State, it must be apparent, even to a casual observer, that very little skill and judgment has been manifested in times past, both as respects *location* and the arrangement or *plan* of farm buildings. No uniformity of building is observed in the country; and perhaps it would be impossible to adopt any one plan, however superior, as a great variety of circumstances would necessarily interpose; but the greatest obstacle in my opinion, is the great diversity of taste, and the overpowing desire of imitating *fashionable* methods. At present, and for some few years past, it has been the prevailing error, especially of those just entering upon the scenes of this busy life, to erect too large and expensive houses. Large sums that should have been expended in the erection of neat, substantial, and convenient out buildings for the accommodation of stock and the storing of produce, or applied to the purchase of manure for enriching the earth, have been needlessly and foolishly squandered in building up a fine showey house, and filling it with fashionable and costly furniture. One piece of extravagance begets another. Example is powerful. And in many cases where those who can well afford to spend thousands in the erection of costly buildings, do so, a neighborhood is infected, the weak minded brethren suffer, as they generally follow suit, and I have on more than one occasion seen verified the assertion of one of your correspondents, to wit: "*I have seen a farmer build a house so large and fine that the sheriff turned him out of doors.*" Who has not seen this! And again, who has not seen many a house standing in the country half finished, because the owner laid the foundations and erected the frame for one as large again as his wants required or his means would justify. These are evils that require prompt and thorough correction. False pride is at the bottom; it is the very root; it is a noxious plant, worse than the Canada thistle; it will not answer to lop off a branch here and there; there is but one way to rid ourselves of it, and that is to *tear it up by the roots.* Let our young farmers attend to this matter.

There are several requisites to be observed in building. 1. *Location*—A healthy spot, near unfailing water, as near the centre of the farm as possible, and so as to overlook the whole. Although the farm may be very large, if so situated, the proprietor, when not in the field himself, may have a fair view of the operations of hands by the use of a telescope, although they may be employed in different parts.

2. The *best* materials are the *cheapest* in the long run; but no general direction can be given on this point, as the materials to be used must vary according to those abounding in the district in which the buildings are to be erected.

3. The plan should be well matured, and special regard be had to *economy*, *comfort*, *convenience*, *neatness*, and *simplicity*; discarding wholly the fashionable adornments of the day. Your cellars should be well ventilated, and flues so constructed as to let off the foul air in winter as well as summer.—Let the foundations of the building be laid well, but never where it is damp or springy. This is an insuperable objection. A dry situation is indispensable. A damp house can never be a healthy habitation. See to this matter, and submit to other inconveniences rather than to this positive evil. I would here recommend to all about building, or re-roofing their present buildings, to cause the shingles to be well saturated in a preparation of lime water for 36 or 48 hours. Dry them before putting on—and I hazard nothing in saying that so powerful is the antisceptic properties of the lime thus imbibed, that they will last double the length of time of shingles applied without the benefit of preparation.

4. The same general principles should govern in the arrangements of the garden, the small out building for poultry, &c., immediately in connection with the house, and which are supposed to be mostly under the management of the female members of the family. It might also be well, while building, to appropriate a portion of the attic to a bee house.

I love to see a house well shaded—the fences and out buildings white-washed—the yard properly arranged, and in good order—"A place for every thing, and every thing in its place." This, of itself, indicates thrift, contentment, peace.

"Let order o'er your time preside
"And *method* all your business guide;

"Ne'er till to-morrow's light delay,
"What might as well be done to-day;
"Neat be your barns—your houses neat;
"Your doors be clean, you court yards sweet;
"Neat be your farms—'tis long confessed
"The neatest farmers are the best." .B.

York, York county, Penn., May 12, 1839.

Feed the Cut Worm.

I say, sir, feed—What shall I feed?—The Grub.

Last January, a year, at the suggestion of my friend, Mr. LIVZEY, of Solebury, I was induced to become a subscriber for the Farmers' Cabinet, and was so well pleased with it on the whole, (though there is in it a good deal I do not understand or comprehend,) that I sent by one of my neighbors and purchased the first volume. I consider the price as money well laid out; for several little matters noticed in the Cabinet I have tried with success; and have been put on my guard against some that would have involved me in unnecessary expenditures of both time and money. As soon as I receive my number from the post-office, I see that the pages match each other; my wife, who is always glad to see it, stitches it through the back. I then neatly cut the leaves apart, (open,) and have my pamphlet ready for perusal, and when read it is laid aside carefully. Pardon these remarks; they are designed only as *hints* to some of my friends who take the Cabinet, but who read it open like an ordinary paper, and have not a little difficulty in finding the connexion of the articles. Now, what I intended to say, and that very briefly, is this.

In one of the numbers of the second volume I found an article giving an account of a costless and efficient plan of preventing the ravages of that pest of the farmer, the cut worm.* My land, then in corn, had been previously well ploughed, and measured about six acres. I tried the remedy on about half an acre, by placing grass, clover, and other green vegetable matter, as could be obtained, by the handful, in every third, instead of every fifth row, between every seventh and eighth hill, pressing the same down by the foot as dropped, according to the directions. This I found should be done lightly. The result was that the grubs on the part of the field thus treated, collected in large numbers under the leaves and other vegetable matter, and were of course very easily destroyed. Now the corn on this portion of the field, flourished uninjured by the cut worm, while the remainder suffered considerably, as much so as any in the neighborhood. Now, I am so well convinced of this, that all my corn this season shall be treated like the half acre of last year. My friends will smile, and say it is too much trouble—but I think differently. J. B.

Buckingham, Bucks Co., May 1.

* The article may be found at length in the Farmers' Cabinet, vol. 2, page 343. It is deserving the attention of every farmer.—ED.

Cattle Sheds.

The opinions entertained upon the subject of the management of stock are very various. However much extreme warmth may be recommended by some graziers for the improvement of fatting beasts, working stock should never be deprived of the free circulation of pure air; and viewing that as a preliminary observation on the buildings applied to their use, they should be lofty and roomy, yet not so wide, when stalled, as to allow them to turn round towards the manger, as they would thus dung in improper places and annoy each other. When large beasts are kept in single stalls, perhaps 6 feet would not be found too spacious; but it must be admitted that they are much more frequently placed in double standings, and from 9 to 10 feet, and, in some stalls, even less is considered sufficient. The standing should extend about nine feet from the wall, and the manger should be fixed so low as that when the ox lies down his head may be above it; for if placed so high as to force him to draw back, he will be compelled to lie in his dirt, because, when he stands to feed, he drops his dung in the very part to which his hind quarters will then extend. There should also be a groove and channel of about 14 inches wide and 9 inches deep behind the stall, as a receptacle for the dung, in which cattle will seldom stand, as the depth of the groove would place them in an inconvenient position; but thus standing unavoidably upon the edge, the dung will be voided within the channel, which is a point that should be attended to, as cattle that lie in the dirt will never thrive so well as those that are kept out of it. It should, however, be observed, that these channels should never exceed nine inches at the most, in depth, as serious accidents have happened to cows, when heavy in calf, by slipping into them and straining themselves. In some, the channels communicate with an iron grate under the cattle-shed, and the urine is thence conveyed by a pipe into the common drain of the yard; a practice well worthy the consideration of those who are not blind to the advantages to be gained by this economy of manure. It is a more natural position for the animal to stand or lie, rather lower before than behind: if the stalls are made with an inclination to the channel at the foot, their quarters should, therefore, always be raised with a small quantity of dry straw; and the partition should neither be so

long, nor so low, as for the hocks of the beasts to strike against it when they lie down.

There are various modes of fastening the beasts to their stalls: in some, the posts to which they are tied have iron crows or staples, with a ring to slide up and down as the beast moves his head, with a piece of chain fixed to it about the middle, and a ring at one end with a hook like a T through the other, according to the length of the bullock, so as not to allow it to slip over his horns.—In others, the cattle are fastened to upright posts about four inches in diameter, by means of loose iron rings and small bows which are put round their necks. The upper part of the bow is flat, and has two holes in it, as in fig. 50 of the following cut: the bow part is made with split ash, has a button or knob at each end, which is put into the circular holes of the flat head-piece, when, by the spring of the bow, the knobs are prevented from returning by their slipping over the notches, where they become fixed, as in fig. 51.

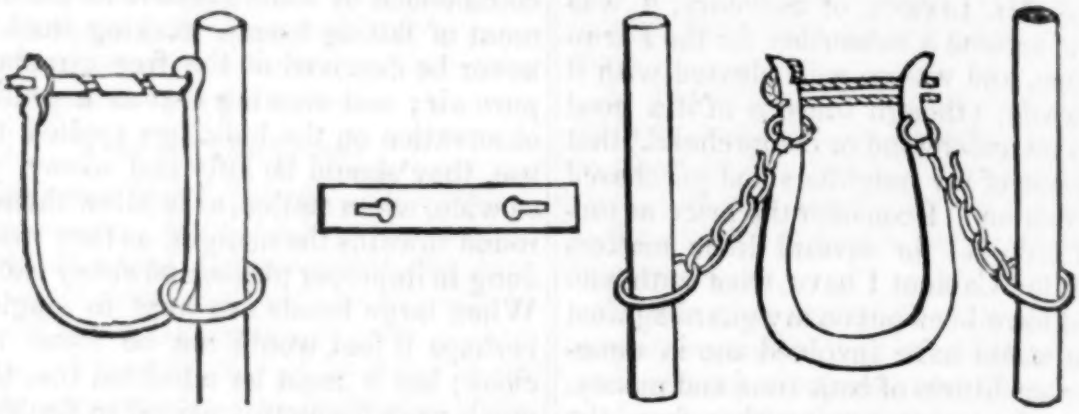


Fig. 51. Fig. 50. Fig. 52.

There is also a collar, which is slung between two posts, as designated in fig. 52,—which is much used in many places. In other places a transverse spar is run along the upright posts of the stalls, about the height of the animal's head, bored with two holes between each post. A collar, fixed round the neck or horns, of a proportionate length to allow him to stand at ease, and to lie down, but not to turn round, is then passed through one of the holes in the spar, and continued to the other, where it is secured with a knot and a small knob of wood. Many farmers, however, use nothing but a halter buckled round the neck, and hooked to a chain which is mortised into the manger, and thus forms a very secure fastening. Or the common mode of securing their heads between two upright posts, one of which is a fixture, and the other moves in a groove, to allow the entrance of the animal's head; after which the post is replaced and fastened with a pin, which prevents him from drawing it back. The chains, or stakes, should be so contrived, as that no ox should raise his head too high when eating; for in this way accidents sometimes occur by choking: when that happens, however, the feeder should be provided with an elastic tube,* covered with a polished head at the end; which if introduced into the animal's throat, the obstruction may be very easily pushed down into his stomach: or a drink may be administered of warm salt and water with a mixture of oil.

* Farmers' Cabinet—vol. ii, page 187.

The Horse vs. the Ox.

"Who shall decide when doctors disagree."

To the Editor of the Farmers' Cabinet.

Sir,—The article at p. 305 of the Cabinet, on the comparative value of the horse and the ox for labor, would seem to leave no question on the subject, and decides in favor of the latter; but *audi alteram partem.*

I beg to copy from my memoranda a "comparative conclusion" on the same subject, which I took from one of the agricultural surveys, but forget which.

"Price of an ox three years' old,	£10
Kept one year idle,	5
Work of three years, equal to his keep,	
Cost at the end of his work, equal to his value,	15
To fatten him, food, labor, wear, tear, and risk,	10
He will then sell for what he has cost,	£25

Contra.

A strong 3 years' old colt,	£15
Work 3 years much superior to the ox, but say,	
At 6 years' old he will have cost, like the ox,	15
But he will then be worth,	£30

By which he pays his owner 100 per cent., or one third of that sum annually, namely, £10 per annum."

Now, from this it would appear that the advantage *is* all on one side, but it is on the side of the horse.

In some of the counties of England, Staffordshire and Lincolnshire for instance, this system of rearing horses for market at 5 and 6 years old, is carried to great extent, and great numbers of the finest cart colts, of im-

mense size and beauty, of 2 and 3 years old, are sold at Weyhill Fair for this purpose. I once went from London to Dudley expressly to purchase a horse for heavy work, and was shown a team of four which were at work in a double furrow plough, which required no person to hold or guide it. After accompanying them about an hour, I selected one, of a beautiful chestnut color, six years old, by the name of "Lion." His place was immediately filled by a colt from another team, four years old, and this was the system pursued by the farmer, who had made a large fortune by it: he had, at the time I made the purchase, fifteen of these fine animals of different ages, all for sale when applied for. I gave, on the spot, 70 guineas for this horse; the price appeared high, but I was offered 100 guineas for him before I reached London, and he proved to be the best and cheapest horse on the establishment. The person of whom I purchased him made a *conscience* of never selling a horse for pounds, shillings and pence; always for *guineas!* Now, sir, if you had seen these four "Lions" turning heavy lay land for wheat, two furrows at a time, and walking five miles an hour, requiring only a man to guide *them* and not the plough, and making about the best work that I ever expect to see, I am pretty sure that *you* would have come to the conclusion that all the advantage *was* on one side. These horses required no driving, the man had only to keep them back, and I was delighted with the farmer's observation at parting—"you see," said he, "I always allow my horses nearly as much corn as they can cleverly eat; their work is then their pleasure, for they are above it. Always keep your horses above their work; it is then their *play*, and they will continue to thrive and improve: oxen are very well, but I could not wait for them to *come*—my horses *go*."

J. W. R.

Chester Co., May 24th, 1839.

For the Farmers' Cabinet.

Feeding Cattle.

Mr. Editor—You will oblige one of your constant readers by publishing the following extract. It is short but not less worthy. I would recommend to all my brother farmers who have adopted the soiling system, to see that their cattle are properly attended to and at regular intervals. Nothing should be permitted to break in upon and derange your system, for upon this, in a good degree, rests your success.

"Regularity of feeding cattle is of prime importance. Three times a day, precisely at a certain hour, cattle, according to Mr. Lawrence, should be furnished with their food.—M. Dean observed, that neat cattle and horses should not have so much laid before them at once as will quite serve to fill them. The hay they have breathed on much they will not eat up clean, unless they are very hungry. It is best, therefore, to fodder them twice at night, and twice in the morning. Let neat cattle as well as horses have both light and fresh air let in upon their fodder when the weather is not too cold and stormy to allow the windows to be open. What one sort of cattle leaves should be given to another sort. Those that chew the cud will eat the leavings of those who do not, and *vice versa*."

THE FARMERS' CABINET.

JUNE 15, 1839.

To our Patrons.

With the next number we complete the publication of the *third volume* of the Farmers' Cabinet. Our regular circulation, in point of number, is very respectable, and is constantly increasing. We are sensible that our success in establishing the Cabinet on a permanent basis, and what of good it has exerted among the thousands of farmers who patronise it, is owing, in a great measure, to our numerous and intelligent contributors.—We beg them to accept our acknowledgments for the aid heretofore rendered; and we hope they will still continue to favor the public through the pages of the Cabinet with their contributions.

The plan on which the Cabinet is published is so essentially different from that adopted by the publishers of newspapers generally, that we are again induced briefly to refer to it, as some of our patrons do not understand it fully.

I. The Cabinet is published monthly at one dollar a year, payable in advance.

II. At the expiration of the term subscribed for, the Cabinet is discontinued, unless otherwise ordered.

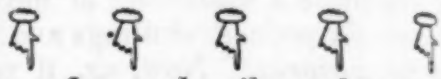
This course was considered, in the commencement of the work, the best that could be adopted. The great majority of the subscribers ordered the paper for one year, at the close of which, the publishers found between seven and eight thousand names on their list. They therefore struck them all off, save a few who who had ordered the Cabinet sent them as long as it was published; as it was

not the object of the proprietors to *force* it on any one. The same rule was adopted at the termination of the second volume; and, after giving the subject due consideration, we think it best for all concerned to adhere to it. But we have a plan which will obviate the difficulty in regard to those who think well enough of our sheet to continue their patronage from year to year. It is simply a list of **permanent** subscribers to the Farmers' Cabinet, which we are happy to say has already received the sanction of many hundreds of our patrons. We wish to bring it to the attention of all our readers, and we therefore most respectfully request those who are about to *renew* their subscriptions, to state whether the Cabinet shall be sent to them until otherwise ordered or not. By this means all parties may be satisfied. Many have been exceedingly disappointed, and in some instances we think that we have been censured unnecessarily because we had discontinued the Cabinet to those to whom it would have afforded us the greatest pleasure to have forwarded it regularly, if we had been apprized of their wishes.

We have many communications from gentlemen residing in various sections of the country, requesting us to forward the Cabinet, and that by the first private opportunity they would remit the amount, which they cannot do by mail. Whenever a letter of this character has reached us, postage paid, we have complied with the request of the writer.* In order to obviate the difficulty we recommend to all, especially those residing at a distance, and whose communication is not direct with Philadelphia, the example of some of our earliest patrons, viz.; a remittance of *five* dollars, which will entitle the subscriber to the first *seven* volumes of the Cabinet, or *seven* years in advance from the date of the remittance, as may be desired. *New* subscribers who wish the work sent them from the commencement can have the first three volumes forwarded by mail in paper covers, subject to newspaper postage.

☞All post masters are hereby duly authorized, and also most respectfully requested to act as agents for the Farmers' Cabinet. They will be allowed the usual commission.

Any gentleman may constitute himself a *special* agent by forwarding us *five* dollars, for which *seven* copies of the Cabinet will be supplied for one year; or, *fifteen* copies for *ten* dollars.



Those of our subscribers whose names are not on our PERMANENT LIST, *whose term of subscription expires with the next number, and who desire to have the Cabinet continued, are respectfully requested to give us immediate information, either personally, by letter, or by some friend visiting the city.*

It is not to be expected that in a business so extensive and complex as that of the Cabinet, that no mistakes will occur.—It is our interest as well as our desire that all our patrons should be regularly supplied. But when subscribers do not receive the Cabinet, it does not follow that the publishers are in fault.—They are not one time in ten. We have satisfied ourselves that one great source of complaint is to be traced to the remissness of some of the post masters; and not unfrequently to the misapprehension of subscribers as to the conditions on which the work is published.—Some, we are sorry to say, are still under the impression that they are entitled to twenty-four numbers yearly, and therefore say they do not receive half their numbers—the complainants are always satisfied when they take a proper view of the subject, but this does not correct the impression on the minds of others. Now we wish it distinctly understood that, in all cases, TWELVE NUMBERS OF THE FARMERS' CABINET ARE EQUIVALENT TO A YEAR'S SUBSCRIPTION. We wish to say a word on an-

*A large proportion of those who thus ordered the Cabinet, have paid the amount of their subscriptions. Many of them not finding it convenient to remit as they had anticipated, have been at considerable pains to procure a one dollar bill, and when they had succeeded have remitted it to us by mail, paying the postage, which, in many instances, amounted to from 37½ to fifty cents, which with the postage previously paid, is three-fourths the yearly price of the Cabinet. A large majority of the subscribers thus situated, have nevertheless ordered the Cabinet continued: In order to meet with this difficulty the Proprietors hereby announce that any person remitting FIVE DOLLARS, shall be entitled to the Farmers' Cabinet for SEVEN YEARS, commencing with the first or any subsequent volume. The money, if sent by mail may be forwarded at the RISK of the publishers.

ther point connected with this subject. According to our terms, new subscribers must commence with the *beginning* or *middle* of the volume. In all cases, when persons subscribe when the volume is far advanced, they are furnished with the preceding numbers, as above stated; when the year expires, unless we have orders to the contrary, the Cabinet is discontinued; and in a number of instances, in due time a formal complaint is entered that A B subscribed for the Cabinet, and has not received a number for such a period of time. We turn to our books and the matter is at once explained. The difficulty lies here. The person in question, notwithstanding he was furnished with the back numbers, expected the work for one year *from* the *time* he subscribed. All that is necessary to prevent difficulty, is a little care and attention on the part of subscribers. We wish them all to make themselves well acquainted with our terms. We refer to these complaints, not that they are numerous, but because they exist to some extent, and that we wish to have the proper remedy applied to every thing of the kind.

Each number as received should be stitched, if convenient, in a paper cover, being first careful to see if the sheet is properly folded, then cut open, so as to be conveniently read, and then laid carefully aside. By this means they will be in a fit state for binding at the completion of each volume. As it is our desire that all who take the work should have it *perfect*, we wish those who do not receive their numbers in due season to give us *timely* notice thereof, and duplicate copies will be sent.

Considering the nature of the business, the thousands we supply with our works, and the great number of agents employed, the obscure manner in which hundreds of names are written, the irregularity in some cases of transportation, &c., we congratulate ourselves that the great mass of our subscribers have received their papers with so much regularity.

—

The present volume of the Cabinet, in addition to a great variety of useful and interesting articles on all the various departments of Agriculture, Husbandry, and Rural Economy, contains entire two valuable treatises, either of which are worth far more than the amount of a year's subscription, viz.:—I. On the Varieties, Properties, Classification, and Cultivation of Wheat. II. On the Management of the Dairy, particularly with respect to the Making and Curing of Butter.—By Dr. James Anderson.

Agricultural Papers.

In order to accommodate our friends, and aid as far as possible the diffusion of agricultural knowledge, subscriptions will be received at the office of the Farmers' Cabinet for the following named publications:

1. "The Cultivator," published monthly at Albany, under the editorial direction of Judge Buel, price one dollar per year. This meritorious work is too well known to require any recommendation at our hands. ☞ The first four volumes of the Cultivator are on sale at the office of the Cabinet, and may be had neatly bound in one volume, price three dollars and fifty cents. The fifth volume, bound separately, price one dollar and fifty cents.

2. The Genesee Farmer, a weekly newspaper, in the quarto form, published at Rochester, New York, under the direction of Luther Tucker, Esq., price two dollars per year. The Farmer has reached its ninth volume, and is still conducted with that distinguished ability which secured for it, in the first years of its existence, a high reputation for usefulness, and an extensive circulation. The Monthly Genesee Farmer, consisting of 16 pages, quarto, is made up of selections from the weekly Farmer. It is consequently a valuable work, and has a fair circulation. Price fifty cents per year.

3. The Maine Farmer, published weekly at Winthrop, Maine, eight pages, quarto. The seventh volume is now in a course of publication. Two dollars per year, Dr. E. Holmes, editor. The Farmer is an excellent work, although not devoted exclusively to agriculture. We have occasionally enriched the Cabinet with extracts from its pages.

4. The Farmers' Monthly Visiter, published at Concord, N. Hampshire. Each number contains 16 large quarto pages. Price seventy-five cents per year. The Visiter is conducted by Hon. Isaac Hill, Governor of the State. It exhibits much industry; contains a large amount of matter of a practical character, and is destined, we think, to take

high rank among the agricultural publications of the day.

5. Journal of the American Silk Society and Rural Economist, published at Baltimore, by the American Silk Society, in monthly numbers of 32 pages each. Price two dollars per year. J. S. Skinner, Esq. editor. The Journal is confided to able hands, and so far as editorial talent and industry are concerned, will prove all its friends can reasonably expect.

6. The Farmers' Register, by Edmund Ruffin, Esq. editor and proprietor, Petersburg, Virginia, monthly, 64 pages, large octavo. Five dollars per year. This useful work is more particularly adapted to the southern and south-western states. It is conducted with great ability, and we are gratified to learn that its circulation is steadily extending; we hope it may be generally patronised in the middle and western states. The editor is the author of several interesting works on agriculture, one of which is known to most of our readers—*Ruffin's Essay on Calcareous Manures.*

7. Boston Cultivator, published weekly in the newspaper form, price two dollars per annum. It is edited by William Buckminster, Esq. Mr. B. is known in New England as an intelligent and successful farmer, and an able writer on agricultural subjects. The Cultivator is devoted to agriculture, news of the day, miscellaneous reading, advertisements, &c.

Agriculture of Essex County, Mass.

We are indebted to the Rev. Henry Colman for a copy of the "*Transactions of the Essex Agricultural Society for the year* 1838 —*Vol.* II. *No.* 8. *Published by order of the Society.*" This is a beautifully executed pamphlet of 126 pages. It is well done, and reminds one forcibly of the old adage, "*what is worth doing at all is worth doing well.*" This is the secret of the success of our New England friends—the principle upon which they act—And in no department of business is it more necessary than in that of agriculture. Every farmer knows that *thirty* acres thoroughly and perfectly tilled and cultivated, will produce a greater yield, and that of a better quality, than a *hundred* imperfectly and carelessly managed.

The pamphlet before us contains an address delivered before the Society, at their annual Cattle Show, held at Topsfield, Sept. 27, 1838, by Leonard Withington: Also a paper on Essex Agriculture, addressed to the Farmers of Essex County, by Rev. Henry Colman. An Anniversary Hymn, written by a Lady; together with a number of interesting "Reports," one of which we subjoin, and may probably give the substance of others hereafter. We copy the statement of Timothy H. Brown, to whom the Committee on Reclaimed Meadows, awarded the first premium, of twenty dollars. Mr. Brown it will be perceived, adopted no half way measures, but determined that what he did should be *well* done. The following is the account, and we urge our readers who may own swamp lands like those described, to follow the example.

RECLAIMING WET MEADOWS AND SWAMP LANDS.

To the Committee on reclaiming Wet Meadows and Swamp Lands:

Gentlemen,—The improvement that I submit to your examination has been made upon between five and six acres of swamp land, situate in the town of Saugus. The mud or soil varies from two to twelve feet in depth. Two years ago, it was so thickly covered with briars and bushes, that a dog would have found difficulty in passing through it. These bushes I mowed and burnt on the ground. There were so many stumps and logs that it was impossible to plough; so I commenced cutting the surface into squares about fifteen inches each way, and then with forked hoes, made very strong, pulled off the sods, and cleared out the stumps and logs. Then using the same hoes, cleared out all the small roots, leveled the surface, and placed back the sods the other side up. This part of the work I did in strips of about one rod in width. In August, 1837, I commenced this. In 1836 I mowed the bushes and dug one ditch. The stumps and logs I took out without the help of oxen. Some of the stumps I should judge had nearly half a cord of wood in them.—There were a considerable number of trees that had blown down, and the meadow had formed over them. Many of them were perfectly sound, and some measured sixty feet in length. The stumps were very numerous. I found three tier deep, and under the bottom lay a pine log, that had some time or other been on fire. After going over the surface and clearing in the manner I have described, I found the expense to have been, at a fair estimate for the labor, $504.

In the winter I hauled off the wood and piled it up for coaling. The largest of the

small roots I selected for my own fire, the smallest I burnt upon the ground. I commenced harrowing with an iron tooth harrow, as soon as the frost began to come out of the ground. The sods being fastened down by the frost, and the harrow passing over the upper side, they mouldered away as fast as the frost would admit; and when the harrow had got to the depth of the sods, they were worked up pretty fine, the frost below making a bridge for the team to pass on. About the first of last May I began planting with potatoes, without any manure. I cut the seed very fine, and planted the parts near together. I merely marked the hills with a hoe, then a man followed after with the seed, and then another man to cover it. So I made speedy work in planting. I calculated to have the seed when covered, one inch from the surface. I used sixty-nine bushels of seed, that is, about fourteen bushels to an acre. I should not have seeded so light, had I not felt an uncertainty about obtaining a crop, without the use of manure. There was but one man, among those I consulted, who gave me any encouragement. Many said I should lose my labor. To their astonishment I harvested 927 bushels of excellent potatoes. The expense incident to planting, hoeing, harvesting, &c., including the seed, I estimate at $117. The land is now in a state that I can plough it at pleasure. On a small piece of the land I planted corn, and it ripened well. On a small piece I sowed wheat, but it came to no perfection, either in the straw or grain.

The wood was converted into charcoal. In 1837 I coaled 1201 bushels, which sold in the market for $166 40. In 1838 I coaled 4200 bushels, which sold on the hearth for $333 33, and I ascertained from the purchaser that it sold in Boston market for $630. I sold wood to the amount of $50, and I estimate that which I used for my own fire worth $50 more. I have on hand one hundred cart loads of the bottom of the coal pits, which I value at $75, having had some knowledge of its virtue as a manure.

The account may be thus stated:

Proceeds of Coal in 1837,	$166	40
Do. do. in 1838,	333	33
Value of Crop of Potatoes at 50 cts. a bushel,	463	50
Value of Ashes for Manure, &c.,	75	00
Value of Wood sold,	50	00
Value of Wood used,	50	00
Increased value of the land, it being now worth $125 an acre, and originally thought to be worth only $12 an acre,	565	00
	$1702	23

Labor, &c.

Levelling and clearing the land, &c.,	$504 00	
Carting the wood and roots,	35 00	
Harrowing, &c.,	12 00	
Planting, hoeing, harvesting, &c.,	117 00	
Coaling in 1837,	40 00	
Coaling in 1838,	100 00	808 00
Balance in favor of the Experiment,		$894 23

I have about two acres more of similar land, that I am managing in the same way. It requires much hard labor, but it yields a fair reward. Yours with respect,

TIMOTHY H. BROWN.

Saugus, Dec. 7, 1838.

The society appears to be in a very flourishing condition. Its funds, invested in safe and productive stocks, amount to seven thousand five hundred and eleven dollars and ten cents. Five hundred and six dollars were awarded in premiums during the last year.—The society, under the management of able and prudent men, has been eminently successful in creating and keeping alive a spirit of agricultural improvement, to the great and lasting benefit of the county of Essex, and the surrounding neighborhoods.

Coal Ashes.

Col. S., one of the best farmers of Philadelphia county, informs us that last season sad havoc was made among his pumpkin and squash vines by insects. Having anthracite coal ashes at hand he had a quantity applied to the vines, using a fine seive for the purpose. The remedy was effectual, as the insects forthwith suspended their operations.

For the Farmers' Cabinet.

To Destroy the Cut Worm.

SIR—I am not a farmer; but as I take a lively interest in the prosperity of agriculture, the first and most important of the arts, it is my delight to converse with farmers, especially if they are intelligent. I had a conversation with a gentleman a few days since, Mr. A. C. R., of Arneytown, N. J., in which he stated, that about a year since, he met with a small article in the Cabinet, upon the utility of giving the cut worm something *green* to eat. He determined to try it, and accordingly gathered the skunk weed or cabbage, that being the earliest and most easily obtained. He dropped the leaves from six to seven feet apart between the rows; and found it to succeed to admiration; as on an examination a few days afterward, he found the corn untouched, but under each leaf or weed he had dropped he found from twenty-three to forty-seven worms. The ground under the leaves and the leaves themselves were completely perforated. The worms being thus collected, were easily destroyed. Mr. R. thinks it an excellent remedy. J. D.

May 24th, 1839.

The attention of Subscribers is requested to the Notice on page 355.

Quantity of rain which has fallen in each month since January 1, 1839.

	Inches.
1st month,	5.03
2d month,	3.42
3d month	1.50
4th month,	1.50
5th month,	6.07

Philadelphia Hospital, 6th mo., 1st, 1839.

To Subscribers.

Those of our friends whose term of subscription expires with the next number and who desire to continue the Cabinet, will greatly oblige us by calling at the office, No. 87 North Second Street, as early as may suit their convenience, and renew their subscriptions, or notify us through some other channel. It will assist us in determining the number of copies with which to commence our fourth volume.

JUST RECEIVED

AND NOW OFFERED FOR SALE AT THE

Agricultural Ware-House,

No. 87 North Second st., Philadelphia.

SEED SOWERS, a variety, adapted to Garden and Field sowing. These machines are simple in their construction, and effectual in their operation.

PRUNING KNIVES AND SHEARS, a good variety.

GRASS KNIVES AND SHEARS, several kinds.

TRANSPLANTING TROWELS, a large assortment, for sale wholesale or retail.

WEEDING TROWELS, (for the ladies) particularly adapted to the cultivation of Flowers.

WILLIS'S IMPROVED CORN SHELLER. This is the "*ne plus ultra*" machine of its kind.

SHEEP SHEARS, among which can be found a very superior article.

GARDEN AND HAY RAKES, by the dozen or single.

SCYTHES AND SNEEDS, patent and common, from the best manufactories in New England and Pennsylvania.

WILLIS'S PATENT GUILLOTINE STRAW CUTTER. A cheap, expeditious, and durable machine.

FIELD AND GARDEN CULTIVATORS. The latter is a prime implement for working the Sugar Beet, Ruta Baga, Multicaulis, &c.

THE CYLINDRICAL AND OTHER ROOT CUTTERS, to prepare the Sugar Beet, Ruta Baga, &c. &c. for feeding sheep and neat stock.

We have now on hand an **extensive assortment of Ploughs, Farmers' and Gardeners' Tools, Seeds,** &c. &c. to which we are making constant additions. Persons interested and Farmers generally are invited to call and examine them.

PROUTY, LIBBY & PROUTY,
No. 87 N. Second st., Phila.

Prices Current---June 3.

FLOUR, PER BARREL.

Pennsylvania and Brandywine	$6 25 a 6 50
Western	6 25 a 6 37
Scraped	5 87 a 6 00
Middling	5 00 a 5 25
Rye Flour	4 88 a 0 00
Corn Meal	0 00 a 4 00

GRAIN, PER BUSHEL.

Wheat, Pennsylvania	$1 40 a 1 43
—— Southern	1 40 a 1 42
Rye, Penna	1 08 a 1 10
—— Southern	1 08 a 1 10
Corn, Penna. round yellow,	90 a 93
—— Southern, yellow	89 a 91
—— White	87 a 88
Oats, Penna	57 a 60
—— Southern	51 a 53
Barley, Eastern	80 a 85
—— Penna	0 00 a 0 00
Peas	1 75 a 2 00
Beans, white	1 75 a 1 87

PROVISIONS.

Beef, mess, (new)	$15 50 a 16 00
—— prime	13 50 a 14 00
Pork, mess	21 00 a 22 00
—— prime	18 00 a 19 00
Bacon, western, per lb	10 a 11½
Hams, Jersey	14 a 21
—— Western	12½ a 13
Butter, extra keg, No. 1	14 a 16
Cheese, country	10 a 11
Lard, western	12 a 12½
Philadelphia	12 a 12½
Jersey	12½ a 13½

WOOL, PER POUND, &c.

Prime Saxony	55 a 58
American full blood	50 a 52½
——— ¾ blood	42 a 48
——— ½ blood	37 a 40
——— ¼ blood and common	35 a 37½
Lamb's sup. pull	47 a 53
Do. Nos. 1, 2, and 3.	33 a 46
Hay, Timothy, per 100 lbs	70 a 100
Clover	75 a 88
Hops, per lb. 1838, prime	16½ a 17½
Clover Seed, per bushel (best Penna.)	00 00 a 00 00
Flax Seed, rough	1 60 a 1 65
Timothy Seed (best)	0 00 a 0 00
Herd Grass, or Red Top	0 00 a 0 00
Orchard Grass	0 00 a 0 00
Sumac, American, per ton	35 00 a 37 50
Tallow, American, per lb	12 a 12½

NEW YORK—June 4.

Flour, per barrel	$6 75 a 7 25
Wheat, per bushel	0 00 a 0 00
Corn, per bushel	93 a 94
Rye, per bushel	1 10 a 1 12
Oats per bushel,	00 a 00

THE FARMERS' CABINET,

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PETER B. PORTER, No. 97 MARKET STREET, WILMINGTON, DEL.

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